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ABSTRACT

Verbs of motion are understood in this paper as those verbs which refer to changes in locus. This definition is meant to exclude those cases in which only part of an object is moved, while the object as a whole remains in the same place ("swell," "expand," "stretch"). A discussion of this definition (Chapter 1) is followed by an analysis of the verbs of motion (Chapter 2). This analysis provides a functional framework which categorizes verbs of motion according to the following components: aspect, direction, passage, course, speed, impetus, duration, distance, manner, mode, relative position, accompanying circumstances, means, purpose and result, space, cause, and features of agency. Chapter 3, Descriptive Problems, considers the semological structure of the verbs of motion. A reference list concludes the study. [Not available in hard copy due to marginal legibility of original document.] (AMM)

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The Semological Structure of the English Verbs of Motion

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April 1969

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CHAPTER 1: THE DEFINITION OF THE VERBS OF MOTION

0.0 Verbs of motion are understood in this paper as those verbs which refer to changes in locus. This definition is meant to exclude those cases in which only part of an object is moved, while the object as a whole remains in the same place. Examples of these cases are: stand (up), swell, expand, stretch, fall (referring to a toppling tree, etc.), shake (referring to a tuning fork, etc.), etc.

0.1 Verbs of motion thus defined by no means constitute a clearly defined group. They have, as their common characteristic, the feature of movement. But the notion of movement may be blurred in several ways. It may become blurred when a verb of motion refers to a movement as potential rather than as actually taking place (0.2), when the reference is made only to a particular part of a movement rather than to a movement as a whole (0.3) or when any of the features other than that of motion is predominantly emphasized (0.4). A verb of motion ceases to be one when we can no longer assign the feature of movement to it (0.5).

0.2 Even a verb which is considered to be a typical verb of motion may not always represent the notion of movement with the same degree of explicitness. Thus if we compare a pair of sentences:

He is running. --- (1)

He runs. ----(2)

we will readily see that the notion of movement is represented as actual in (1), while remaining only potential in (2) (unless we understand the sentence as in the historical present). The difference is reflected in the possible ambiguity of the related agentive noun with suffix -er.

2.

Cf.

| The runner looks out of breath. ---- (3)

He is a marathon runner. ---- (4)

where we have parallelism between (1) and (2), on the one hand, and (3) and (4), on the other. We will, however, consider that any semological difference between the verb run in (1) and that in (2) is due to the presence or absence of a certain *sememe* contributed by the lexeme be -ing and that, therefore, the verb run is a verb of motion in either sentence.

0.3 Verbs which have certain features of aspect will be felt as verbs of motion less explicitly than those which do not, because they denote only a particular part of a movement rather than a movement as a whole. Thus compare such verbs as start, depart, leave, arrive, on the one hand, and such verbs as pass and travel, on the other. The former refer only either to the incipient or the final phase of a movement. An extreme case in point is the verb stop, which refers to a ceasing of a movement and, therefore, implies a consequent state of lack of movement.¹ But since there is always certain reference to a movement, we will consider the verb as a verb of motion. Compare the verb with a verb like stay, which has no such reference and is not a verb of motion. For a detailed account of verbs with features of aspect, see 2.

0.4 Many verbs of motion have, besides the feature of movement, various types of other features, such as purpose, result, means, mode and accompanying circumstances. These other features are usually subordinate elements in the meanings of the verbs of motion, but sometimes they become so prominent as to overshadow the feature of movement. Take, for example, such verbs as elope, abscond, exile, migrate, immigrate and emigrate. They all refer to a situation in which a movement on the part of the agent is implied, but the notion of purpose (e.g. 'in order to get

married without the parents' consent' in the case of the verb elope) is so much more prominent that intuitively one may hesitate a little to call them verbs of motion.²

In a considerable number of verbs (or uses of verbs), the feature of movement is less prominent than the other features. Thus the meaning of the verb visit may be analyzed as 'go' + 'in order to see a person, etc.,' but quite often the focus is given to the feature of purpose, so that the notion of movement becomes subordinate (i.e. 'see a person, etc.' + 'by going to him, etc.') or even apparently lost and we can say quite naturally, I went there to visit him. Compare the verb attend, in which the feature of movement is subordinate from the first: I went there to attend the meeting. Or again, the verb assemble, which can be interpreted as having the feature of result, 'so as to be together,' may cease to be a verb of motion by the same process. Cf. we are assembled in contrast to we have assembled. The same thing may also happen with verbs having features of means. Thus in the question, can you drive?, the notion of movement is far less relevant than that of how to control the mechanism of the vehicle. Cf. the verb navigate (a ship).³ The notion of movement is still less prominent in such uses as this car drives very well, the horse rides easily.

In the case of those verbs discussed in the preceding paragraph, the motional uses are felt the 'original' and the non-motional uses are 'derivative.' The reverse process may happen, too: i.e. the feature of movement, which originally is a subordinate element or is even apparently non-existent, may become prominent. Thus the meaning of the verb throw in its usual uses (e.g. he threw the ball skillfully) may be represented as 'make a certain movement of the arm' + 'in order to cause something to go through the air.' But in a sentence like he throw the ball over the

fence, the meaning is rather 'cause something to go through the air' + 'by making a certain movement of the arm.' Similarly, although the verb push does not usually involve the feature of movement (e.g. he pushed the wall), it is a verb of motion in a use like he pushed the cart over the hill, where its meaning is represented as 'go' + 'at the same time as pushing (cf. 17).' Cf. further such verbs as swallow (i.e., in one interpretation, 'cause something, by the action of the muscles of the throat, to go down from the mouth to the stomach'), eat, drink, vomit, spew, etc.

In general, we will consider a verb as belonging to the category of verbs of motion if the feature of movement is the principal, and not a subordinate, element of its meaning. Uncertain cases such as we have seen in the above show that there are a number of verbs that are situated on the fringe of the category of verbs of motion.

0.5 Finally, a verb of motion by definition ceases to be one when we can no longer assign the feature of movement to it.

0.5.1 Motion is most typically conceived of with regard to concrete objects. There are, however, several levels at which we can talk about the concreteness of an object.

(1) It is tangible and discrete: e.g. a man, a car, a book, a stone, etc.

(2) It is tangible, but not discrete: e.g. water, air, etc.

(3) It is not tangible, but still sensible: e.g. light, electricity, heat, sound, odor, etc.

At level (1), we can most confidently talk about motion, since it will not be difficult to determine a change in locus with regard to a tangible, discrete object. When we extend the notion of 'concrete object' by dropping the requirement that it be discrete, we have what is usually referred to as 'mass.' Since what is in question is not concrete, we cannot define

a change in locus here as readily as in the case of concrete objects at level (1). Notice further that the lack of discreteness also makes it difficult to distinguish between the two types of motion referred to in 0.0 above, namely, the motion which involves change in locus on the part of the 'moving' object and that which does not. Does the verb undulate refer to what we can call motion in the sense in which we have defined the term? Or, if the sentence water flows refers to a motion, then what about the Mississippi flows through the United States? (Cf. 0.5.2 below).

At level (3), motion is still more difficult to define. We say, for example, light travels faster than sound. Can we still talk about 'change in locus' with regard to such an entity as light? Or do we here merely have an example of linguistic convention---a metaphor? Notice that the issue is here whether we should recognize a case like this as representing a 'metaphorical' sense that is distinguished from the original motional sense. Linguistic convention decrees that we may use a verb like travel in reference to such a thing as light, but to the extent that we feel there is little notion of movement in what we refer to by a verb of motion, we feel that the verb has a different sense from the one it has when it refers to a movement of a discrete concrete object (e.g. the train travels fast). Moreover, the usual lack of discreteness in these intangible things presents the same difficulty as in the case of mass. Is a motion really referred to, for example, in light comes in through the window or electricity runs through the wire? It is but one step from a sensible but intangible thing to an abstract thing.

0.5.2 Before discussing the use of verbs of motion with abstract things, there is one peculiar use which is worth mentioning. Here are some examples:

The road runs round the wood. ---(5)

This street leads to the center of the city. ---(6)

The land falls ten feet behind the house. ---(7)

At least two peripheral uses of verbs of motion seem to converge in these instances.

First, the loss of the implication of motion here is related to the application of a verb of motion to a non-discrete object (cf. 0.5.1). Sentences (5), (6) and (7) above are in fact one step from a sentence like the following:

The river meanders through the plain. ---(8)

The notion of motion may still be felt in this case, but if we understand the river here as one on a map, then the sentence is on a par with any of the three sentences above. A sentence like (8), in turn, stands close to a sentence like the following:

The ivy climbs the wall. ---(9)

We may feel that the notion of motion is still a little more apparent in (9) than (8). If so, it is because we can conceive of ivy as a thing that moves by growing.

Second, the use in question is related to cases in which a verb referring to a motion is transferred to denote a state resulting from the motion. Compare the ambiguity of a sentence like the following:

Water spreads. ---(10)

It may refer to a wide expanse of water as well as to spreading floods. By the same token, we can say that in a sentence like (5) above, the road is in some sense conceived of as further extending as one goes along it.⁴

0.5.3 The loss of the feature of motion is also brought about by a process called 'metaphor.' In general, we can infer the loss of the feature of motion by noting either that the verb takes as subject a word referring to an abstract thing with which motion is by nature impossible

or that the verb is combined with modifying phrases which would be incompatible with the notion of movement. Cf.

Civilization has advanced. ---(11)

Prices rise. ---(12)

The secret oozes out. ---(13)

They have plunged into an all-out war. ---(14)

He has jumped to a conclusion. ---(15)

We will return to the discussion. ---(16)

He has emerged from ignorance. ---(17)

The first three sentences serve as examples of the former type, while the remaining four belong to the latter type. These types are combined in the following examples:

His voice sank to a whisper. ---(18)

His words carry authority. ---(19)

There is a fourth possibility, however, in which the 'moving' object is something to which motion in a strict sense is not attributable, while the verb itself takes a modifying phrase which usually goes only with verbs of motion. Cf.

Words fell from his lips. ---(20)

Plague and famine visited the country. ---(21)

An interesting fact about these expressions is that it is not so much the verb as the noun that is understood 'metaphorically.' Compare a sentence like (20) with one like the following:

He fell from his high position. ---(22)

In Part III, we will try to demonstrate that the meanings of these sentences can be accounted for as extensions of the notion of motion.

CHAPTER 2: THE ANALYSIS OF THE VERBS OF MOTION

1. The Functional Framework for the Verbs of Motion

1.0 Motion, as defined in 0.0 of Chapter 1, involves at least two elements: something which moves and its type of motion. Linguistically, this is most typically represented by a sentence in which we have a subject and a predicate verb of motion that refer to the moving body and its motion, respectively.⁵

1.1 It is to be noted, however, that all the sentences that have the structure of a subject followed by a predicate verb of motion do not necessarily have the same semological structure. Compare the following sentences:

The stone moved. ---(1)

The man moved. ---(2)

He moved the stone. ---(3)

He moved the man. --(4)

Sentence (1) will, in all probability, be understood uniquely as referring to the change in locus of the stone in question. Since a stone is conceived of as being incapable of voluntary movement, the uniquely possible interpretation of (1) will be that its movement was caused by something else. This correlates (1) with (3); in other words, (1) is implied by (3).

It appears that the relation between (2) and (4) parallels that of (1) and (3), but the parallelism is not exact. Sentence (2) can mean two things: either (a) that the man moved voluntarily or (b) that the man was simply moved by something else (e.g. by being pushed). Notice that a sentence like (4) admits only of an interpretation which correlates the sentence with (2b) rather than (2a) and that it would be impossible to apply sentence (4) to a situation in which 'the man' moved voluntarily because he was persuaded by 'him.' It will thus appear that the distinc-

tion between (2a) and (2b) is significant as a systematic difference in linguistic structure.

Lexologically, sentences like (1), (2), (3) and (4) are accounted for in terms of such concepts as 'subject' and 'object.' These concepts are clearly inadequate for an account of semological facts such as are discussed above. We must assume that the sentences discussed above have semologically different structures from their lexological structure. We will start by positing three elements as operating units for the semological structure: 'agent,' by which something is referred to as not voluntarily moving, 'ergatum,'⁶ by which something is referred to as not voluntarily moving, but as being caused to move and 'initiator,' by which something is referred to as causing the movement. Sentences (1), (2), (3) and (4) are thus represented in the following way:

The stone moved. ---(1)
Er.

The man moved. ---(2)
Ag. or Er.

He moved the stone. ---(3)
In. Er.

He moved the man. ---(4)
In. Er.

Notice that as noted above, (2) has a twofold interpretation, while the interpretation of (4) is uniquely determined.

1.2 Compare, however, Sentences (3) and (4) with (5) and (6) below:

He caused the stone to move. ---(5)

He caused the man to move. ---(6)

The two pairs of sentences are only partially synonymous with each other, since the ranges of application of the latter pair of sentences are wider than those of the former pair. The difference can be seen in three points. Notice, first, that in (3) and (4), 'he' is a person who

actually worked on the stone or the man and caused it or him to move, while in (5) and (6), this is not necessarily the case---'he' may be an initiator who asked somebody else to cause the movement. It appears that we have thus to distinguish between an 'immediate causer' represented in (3) and (4) and a 'non-immediate causer' (represented in (5) and (6)).

Secondly, notice the ambiguity of Sentences (5) and (6) in contrast to the uniquely interpreted (3) and (4). Sentence (6), for example, can refer to a situation in which 'he' plays an active role in causing the man to move or to one in which 'he' himself plays no active role at all. The former is the case if 'he' caused the man to move by pushing him---in which case 'he' is the immediate causer---or brought about the same effect by asking somebody else to push the man for him---in which case 'he' is the non-immediate causer. On the other hand, suppose we have a situation in which the man moved because he happened to notice the presence of a person whom he probably did not want to meet. The latter did not act at all in order that the man might move, but still he was the initiator of the action. His capacity as the initiator is non-voluntary, and this contrasts with the situation implied in the other interpretation discussed above in which we have a voluntary agent. We can distinguish the two types of initiator by tentatively calling them 'agentive initiator,' represented in (3), (4) and (5), and (6), and 'ergatic initiator,' represented in (5) and (6).

Thirdly, notice the semological status of 'the man' in (6) as compared with 'the man' in (4). In (4) 'the man' has to be understood as 'non-voluntary.' 'The man' in (6) may be understood as 'non-voluntary,⁸ but the sentence may also apply to a situation in which 'he,' the initiator, arranged things in such a way that 'the man' was obliged to move

on his own will. Thus 'the man' in (4) is 'ergatum;' in (6), 'the man' is either 'ergatum' or 'agent.' In terms of the distinctions we have noted above, Sentences (3), (4), (5), and (6) are now represented as follows:

He moved the stone. --- (3)
Ag.-In. and Im.-Cau. Er.

He moved the man. --- (4)
Ag.-In. and Im.-Cau. Er.

He caused the stone to move. --- (5)
Ag.-In. or Er.-In. Er.

He caused the man to move. --- (6)
Ag.-In or Er.-In. Ag. or Er.

1.3 From a descriptive point of view, however, we can make some simplifications here. We first note that the two elements, 'cause' and 'initiator,' presuppose each other, so that there is redundancy in saying that 'cause' takes an 'agentive initiator' or an 'ergatic initiator.' The possibility is that the agentive and the ergative initiators are in fact variants of 'agent' and 'ergatum' respectively, when they occur in combination with 'cause.' There seems to be ample reason to suppose that the 'agentive initiator' is identifiable with the 'agent.' The former refers, as does the latter, to something acting voluntarily: cf.

The man (agent) walked. -- The man (agentive initiator)
walked the horse.

There are sentences which can be interpreted either as involving the agent or the agentive initiator: cf.

He pushed the cart up the hill.

i.e. either 'he (agent) went up the hill pushing the cart'
or 'he (agentive initiator) caused the cart to go up
the hill by pushing it.

The agentive initiator as well as the agent can be realized at the lexemic

stratum as 'subject,' as 'object,' or as the preposition by: cf.

The man (subject, agent) walked.

The man (subject, agentive initiator) walked the horse
(object, agent).

He caused the man (object, agentive initiator) to walk the
horse.

He was kicked by the horse (prepositional object, agent).

The horse was walked by the man (prepositional object, agentive initiator).

On the other hand, the parallelism is not so perfect between the ergatum and the ergatic initiator. They have, indeed, some common characteristics. Either of them refers to something acting or causing in a non-voluntary way: cf.

The stone (ergatum) moved.

The damage (ergatic initiator) caused the ship to sink.

Either of them can be realized as 'subject' at the lexemic stratum, as shown by the sentences just quoted. But while the ergatum is very commonly realized as 'object,' the ergatic initiator is not: cf.

He moved the stone (object, ergatum).

*Somebody caused the damage (object, ergatic initiator) to sink
the ship.

On the other hand, the ergatic initiator can be indicated by by, as in:

The sinking of the ship was caused by the damage (prepositional
object, ergatic initiator).

But this would be impossible for the ergatum, since the ergatum is by definition something that is caused by something else to move.

What we have then is as follows:

		Realized as:	Used in combination with:
'agent'	voluntary	subject, object, <u>by</u>	motion
'agentive initiator'	voluntary	subject, object, <u>by</u>	cause
'ergatum'	non-voluntary	subject, object, <u>by</u>	motion
'ergatic initiator'	non-voluntary	subject, object, <u>by</u>	cause

Since the sole difference between the agent and the agentive initiator lies in their environmental differences (i.e. in combination with either 'motion' or 'cause'), we can safely conclude that they are no more than the variants of one and the same element which we will now call 'agent.' Thus the 'agent' can now combine either with 'motion' or with 'cause' and whatever the notion of initiator may be, it is automatically given in the latter environments.

The ergatum and the ergatic initiator cannot be collapsed in the same way since their behaviors do not parallel each other. Notice the intermediate characters of the ergatic initiator. It is partially similar to the ergatum (in that it is non-voluntary) and partially similar to the agent (in so far as its realizations are concerned). It is thus to be posited as a third element in addition to the agent and the ergatum. An alternative analysis, however, suggests itself. We may consider that we have two different elements, 'cause¹' which takes the agent and 'cause²' which takes the ergatic initiator. Then on the basis of the realizational similarities, we can collapse the agent and the ergatic initiator, since the distinction between 'voluntary' and 'non-voluntary' is now contingent upon the environmental distinction between 'cause¹' and 'cause²'. The choice between the two alternatives depends on the linguistic significance of positing two kinds of 'cause' rather than one. It seems that positing two kinds of 'cause' will help to account for one fact we have already noted, namely, that causative verbs of motion in

general take the agent while simple causative verbs take either the agent or the ergatic initiator: cf.

The enemy (agent) sank the ship.

*The damage (ergatic initiator) sank the ship.

The enemy (agent)/ The damage (ergatic initiator) caused
the ship to sink.

We can account for the situation by saying that causative verbs of motion generally realize 'cause¹,' while we have a neutralized realization of 'cause¹' and 'cause²' for simple causative verbs. It will then follow that since we now have 'cause¹' and 'cause²' corresponding to the agent and the ergatic initiator, respectively, the latter distinction is redundant. We can collapse the two into one element, which we will identify as 'agent' since the ergatic initiator, as we have seen above, had the same realizational characteristics as the agent. Thus we have the following scheme:

Agent + Motion: e.g. the man jumped.

Ergatum + Motion: e.g. the man fell.

Agent + Cause¹: e.g. the man jumped the horse.

Agent + Cause²: e.g. the man caused the horse to jump.

We will later argue that the difference between 'cause¹' and 'cause²' corresponds to that between what we call 'cause' and 'reason.'

Having formulated matters as above, we will further be able to show that the distinction we have made between the immediate causer and the non-immediate causer is also linguistically of no significance, because the degree of immediacy is dependent again on environmental factors.

'Cause¹,' which is realized (in conjunction with other elements) as causative verbs of motion, is often modified by various subordinate elements which are easily associated with some voluntary act of the agent. Thus

the causative verbs of motion push and drive, as in (7) and (8) below, mean 'cause by pushing' and 'cause by means of a car,' respectively, while it is not easy to find a similar component for a causative verb of motion like march, as in (9). The degree of immediacy which we associate with the agent acting as a causer is apparently determined by the types of such subordinate elements. Thus compare the three sentences:

He pushed the cart up the hill. --- (7)

He drove the girl home. --- (8)

He marched the prisoners. --- (9)

In (7) 'he' can only be an immediate causer in the strictest sense of the term, i.e. 'he' pushed the cart. In (8) 'he' is usually the man who drove the car that took the girl home. The possibility of interpreting the sentence as involving a non-immediate causer is quite limited. Thus ---for some speakers--- 'he' can be a man who asked his private chauffeur to drive his car to take the girl home. Sentence (8) would not apply to a situation in which 'he' asked a taxi-driver to take the girl home. Sentence (9), on the other hand, seems to have the smallest constraint in this respect. Thus, 'he' may be a commander who simply gave an order and let his officer take care of the prisoners. Thus the sentence is almost synonymous with a sentence involving a simple causative verb: he caused the prisoners to march. But this would not apply to verbs like push and drive. Causal relations, as we will see later, are by nature transitive and we pick up for linguistic expression just that causer that we consider most relevant to the particular movement caused. This causer may or may not be an immediate causer in the strict sense of the term. Since causative verbs of motion generally incorporate some elements that refer to certain voluntary acts of the agent, they tend to represent the agent as acting as an immediate causer. Simple causative verbs, on the

other hand, are more or less immune from such associations and they can more freely acquire a causer to be combined with irrespective of the immediacy of the causal relation.

The representation given in 1.1 and 1.2 can now be given in the following form:

The stone moved. ---(1)
Er.

The man moved. ---(2)
Ag. or Er.

He moved the stone. ---(3)
Ag. 'cause¹ Er.

He moved the man. ---(4)
Ag. 'cause¹ Er.

He caused the stone to move. ---(5)
Ag. 'cause¹ or 'cause² Er.

He caused the man to move. ---(6)
Ag. 'cause¹ or 'cause² Ag. or Er.

1.4 The agent occurring with 'cause¹' (i.e. what we called 'agentive initiator') is usually realized as subject at the lexemic stratum. But when some feature of means is present in the absence of the agent, the former is realized as subject. Cf.

A little pushing will move the man. ---(10)

The lever will move the stone. ----(11)

In spite of the lexotactic similarity between these and a sentence like he moved the stone ---(3), 'pushing' in (10) and 'lever' in (11) are not considered as agent. They are rather 'instrumentals' realized as subjects at the lexemic stratum with their marks of 'instrumentals' having zero-realizations. This interpretation will define (10) and (11) as fundamentally synonymous with (10a) and (11a) in the following:

He will move the man by pushing. ----(10a)

He will move the stone with the lever. ----(11a)

A question may be raised about the semological status of 'the wind' in a sentence like the following:

The wind will move the stone. ---(12)

The sentence, in fact, is ambiguous, depending on whether 'the wind' is an 'agent' or an 'instrumental.' In the former interpretation, the (natural) wind is so strong as likely to move a stone. The second interpretation will define the sentence as synonymous with a sentence like he will move the stone with the wind ---(12a); he uses some such means as bellows to produce a wind in order to move the stone. Thus in the former, the wind is interpreted as a quasi-human agent capable of voluntary action.

1.5 Now compare the following sentences:

It moved the stone. ---(13)

It moved the man. ---(14)

It caused the stone to move. ----(15)

It caused the man to move. ----(16)

The usual interpretation that can be given to (13) and (14) is that 'it' in these sentences refers either to something which is conceived of as being voluntary --- a robot, for example; or to some instrument or act --- a lever or an act of pushing, for example --- by which the movement is caused. The verb move here requires, as we have already noted, an agent, and this interpretation will be imposed on whatever is conceived of as the initiator of the movement. In case this interpretation is excluded, the possibility is that 'it' is instrumental. On the other hand, 'it' in (15) and (16) will be understood quite naturally. 'It' may refer to the shaking of the ground, for example, as well as to a quasi-human agent or an instrumental. Sentences (13), (14), (15), and (16) are represented as follows:

It moved the stone. ---(13)
 Ag. or Ins. Er.

It moved the man. ---(14)
 Ag. or Ins. Er.

It caused the stone to move. ---(15)
 Ag. or Ins. Er.

It caused the man to move. ----(16)
 Ag. or Ins. Ag. or Er.

1.6 From the foregoing discussion we can now make certain generalizations. The first of these generalizations is that from a semological point of view we have three types of verbs of motion:

(1) Verbs which take only 'agent:' e.g. walk

(2) Verbs which take only 'ergatum:' e.g. move

Notice that the notions of 'agent' and 'ergatum' are relational ones; i.e. something is taken as 'agent' or 'ergatum.' They are thus different from components like 'animate' and 'inanimate,' which define tactical ranges. Moreover, there is no one-to-one correspondence between the two pairs of notions; only 'animates' can be treated as 'agent,' while both 'animates' and 'inanimates' can become 'ergata.'

Another generalization is that there are two components of cause, 'cause¹' and 'cause²,' and that 'cause¹' is usually lexicalized as a single causative verb of motion, while a simple causative verb neutralizes 'cause¹' and 'cause².' Thus,

(1) 'cause¹:' which takes an initiator that acts voluntarily:
 e.g. move in (3), (4), (13), and (14).

(2) 'cause²:' which takes a non-voluntary initiator: cf.
cause in (5), (6), (15), and (16).

Notice that the distinction between 'cause¹' and 'cause²' corresponds to that between what we commonly call 'cause' and 'reason.' While the agent in the case of 'cause¹' can alternatively be represented by a phrase

beginning with by, as in (10a), (11a) and (12a), the corresponding paraphrase for a sentence with 'cause²' will contain a phrase introduced by because (of). Thus the two possible interpretations for the sentence, he made the man move away --- (17) will be the following:

The man was made to move away by him. ----(17a)

The man moved away because (e.g.) he (sc. some other man) was present. ----(17b)

The contrast between 'cause' and 'reason' is also reflected in the contrast between 'immediate causer' and 'non-immediate causer.' In the causative interpretation (17a), 'he' may not be the immediate causer in a strict sense; (17a) can be rephrased as:

He caused (somebody to cause somebody to...cause) the man to move away. --- (17c)

The number of the agents that intervene between 'he' and the last 'immediate causer' can be multiplied indefinitely, but the situation may still be referred to by (17). This is made possible, because causal relations are by nature 'transitive;' i.e. 'the causeⁿ of the causeⁿ⁻¹ of...the cause² of the cause¹ of X,' for example, is the same as 'the causeⁿ of X.' On the other hand, 'reason' is a 'non-transitive' relation; i.e. 'the reasonⁿ for the reasonⁿ⁻¹ for ... the reason² for the reason¹ for X' is not the same as 'the reasonⁿ for X.' Thus suppose we have a series of events: a child made some mischief, he was scolded, and he cried. We can say that the 'cause' of the child's crying is that he committed some mischief, but not that the 'reason' of his crying is that he committed some mischief. An agent occurring with 'cause²' (i.e. one functioning as a 'reason') can, therefore, only be an immediate causer. Notice, however, that these properties of 'cause' and 'reason' with regard to the distinction between the immediate and the non-immediate causer are again

non-distinctive, since they are automatically determined depending on the choice between 'cause' and 'reason.'

1.7 In the above, we have set up as relational features, 'agent' and 'ergatum.' A feature 'goal' will further be necessary to account for the meanings of some verbs of motion and also many verbs of other types. Compare, for example:

He moved the man. --- (4)

He hit the man. --- (18)

'The man' in (4) is 'ergatum,' as defined above, while 'the man' in (18) is considered as 'goal.' The difference between the two sentences lies in the fact that the paraphrase of (4) is 'he caused the man to move' --- (4a) and that 'the man moved' --- (4b) is implied by (4), while neither 'he caused the man to hit' nor 'the man hit' can serve as the paraphrase or the implied statement of (18). The ergatum is affected by 'cause;' the goal, on the other hand, is affected by motion (in a wide sense). It may be suspected that the ergatum and the goal may not be collapsed in the same way as the initiator and the agent are. It is true that the behaviors of the ergatum and the goal closely parallel each other; either of them can be an 'object'---e.g. (4) and (13)---or a 'subject' in a passive sentence, such as the man was moved by him or the man was hit by him. But it is not possible to paraphrase (4) and (18) with sentences in active form having the goal as 'subject:' he moved the man implies the man moved but he hit the man does not imply the man hit. Because of this difference, we will posit the ergatum and the goal as separate elements. Cf. further 4.3 of Ch. III. Thus,

He moved the man. --- (4)
Ag. Er.

He hit the man. --- (18)
Ag. Goal

Notice, however, that the use of the 'same' verb in the paraphrase or the implied statement cannot be a criterion for ergatic construction. Cf.

He sent the man. --- (19)

The paraphrase of (19) is not 'he caused the man to send' --- (19a') but 'he caused the man to go' --- (19a); the implied statement is 'the man went' --- (19b) and not 'the man sent' --- (19b'). The relevant criterion will therefore be whether a close paraphrase can be provided by the 'causative' construction.

1.8 It often happens, however, that the same verb admits of either a causative or a non-causative interpretation with the result that the ergatum and the goal functions are equally attributable to the same noun in the sentence. Sentence (18), as we have seen, is usually understood as 'non-causative' construction, but a sentence like (20) is clearly of causative type, admitting of a paraphrase, 'he caused the ball, by hitting it, to go over the fence' --- (20a):

He hit the ball over the fence. --- (20)

Compare also:

He throws the ball well. --- (21)

He throws the ball fast. --- (22)

'The ball' is 'goal' in (21) and 'ergatum' in (22) (i.e. 'he caused the ball, by a certain movement of the arm, to go fast' --- (22a), and the difference is reflected in the different semological categories of the adverbs selected.

In the case of verbs like throw and (especially) hit, the non-causative interpretation is the more usual one, the causative interpretation being required only when there are certain explicit indications to that effect. These verbs are thus situated on the fringe of the category of

verbs of motion. There are a number of such verbs, some of which are difficult to recognize, e.g. swallow (= 'cause something to go down the throat').

There are other verbs which are properly verbs of motion and yet admit of either a causative or a non-causative interpretation. Cf.

He brought the book to me. --- (23)

(23) can be paraphrased either causatively as 'he, by having it with him, caused the book to come to me' --- (23a) or non-causatively as 'he came, having the book with him, to me' --- (23a'). In the first interpretation, 'the book came to me' --- (23b) is implied and 'he' is the initiator and 'the book,' the ergatum. In the second interpretation, 'he came to me' --- (23b') is the implied statement, and 'he' is the agent and 'the book' the goal. Ambiguity of this sort will be found in verbs like take, drive, convey, transport, etc.

1.9 Ambiguous cases like the above again suggest the fundamental identity of the agent in motional constructions and the agent (which we once called 'agentive initiator') in causative constructions. Compare further the following paraphrases:

He walked = He caused himself to walk. --- (24)

He swam = He caused himself to swim. --- (25)

'He' on the left-hand side of the equal sign is 'agent,' while 'he' on the right-hand side is what we have called 'agentive initiator.' If equations like the above are acceptable, it means that the formula 'Agent + Motion' is virtually equivalent to the formula 'Agentive Initiator + Cause + Agent + Motion' whenever 'Agentive Initiator' is identical with 'Agent.'

It is now tempting to see whether any such equation can be found for a sentence with the ergative agent. Clearly, an equation like the fol-

lowing is felt unacceptable:

He fell $\neq$ He caused himself to fall. ---(26)

The following equation, however, seems plausible:

He fell = He allowed himself to fall. ----(27)

Equations with allow seem to hold with all those cases in which 'animates' are used as ergata. In fact, allow (here not in the positive sense of 'to permit' but 'not cause...not to do' as defined below) is a verb whose meaning serves for 'de-animatization' or 'de-personification'---treating the animates as if they were inanimate. Allow oneself is not used with verbs that require an 'agent:' cf.

*He allows himself to dive. --- (28a)

He allows himself to sink. --- (28b)

He allows himself to be ducked. ----(27c)

On the other hand, cf.

He made himself dive. ----(29a) $\rightarrow$ He dove. ----(29a')

He made himself sink. ----(29b)

He made himself be ducked. ----(29c)

The slight uneasiness with sentences like (29a), (29b) and (29c) is due to the fact that 'he' and 'himself' are treated as agent and ergatum, respectively, even though they obviously refer to one and the same person.

Semologically, allow is 'not [cause (--- not)].' He allows her to go is equivalent to 'he does not cause her not to go.' The opposite of allow is prevent: e.g. he does not allow her to go = he prevents her from going. The pair allow and prevent contrast with the pair, cause and refrain (from -ing): e.g. he does not cause her to go = he refrains from causing her to go. What we have, therefore, is the following system:

'cause'	--	<u>cause</u> ;	'not cause'	--	<u>refrain (from)</u>
'cause (--- not)'	--	<u>prevent</u> ;	'not [cause (--- not)]'	--	<u>let or allow</u>

1.10 From the foregoing discussion it is clear that the following elements constitute the functional framework for the verbs of motion:

Obligatory Elements

- (i) Agent or Ergatum + Motion

Optional Elements

- (ii) Agent + Cause

- (iii) Various Specifying Elements

The typical structure is represented as follows, optionality being indicated by the parentheses:

(Agent + Cause (+ Specifying Elements) +) Agent/Ergatum + Motion
(+ Specifying Elements)

1.11 In the following sections we will try to determine with regard to each verb of motion what are the semological features that for it count as agent or ergatum or as elements specifying the types of motion or causation. Notice that the features that count as specifying elements are in endocentric construction with the feature of motion or of causation, while those that count for agent or ergatum are in exocentric construction with the feature of motion or causation. In accordance with the discussion made in 13.2.5 of Part I, features of the former sort define the componential properties of the verbs of motion or cause, while those of the latter sort define their tactical properties. We will use the term 'components' to refer to features that define componential properties, while the term 'features' will be used as a cover term referring to those that define tactical as well as componential properties.

Forms given between two slants are what count as 'sememes' in stratificational grammar. Those given between two single quotation marks are 'features,' which may be interpreted in stratificational terms either as 'hypersememes' (if we consider them as elements of which sememes are port-

manteau realizations) or as 'sememes' (if we consider them as elements in terms of which other sememes are defined). If the tactical range of a sememe is smaller than 'concrete,' then an indication is added (after two slants) as to its exact tactical range. If the features for the tactical range function only either as agent or as ergatum, again a statement will be given to that effect. Otherwise, no specification is given. To each sememe is added a list of lexemes that realize the sememe in question. Reference to other sections given in the parentheses after a lexeme means that the lexeme also realized other sememes discussed in those sections. Such a lexeme is 'polysemous.'

The verbs will be discussed in separate sections according to their most conspicuous features. There will be sixteen categories of specifying elements: aspect, direction, passage, course, speed, impetus, duration, distance, manner, mode, relative position, accompanying circumstances, means, purpose, result, and space. The classification is based on the semantic criteria and is merely for the sake of convenience: no hierarchic relations among the components are shown. A semologically significant classification will be considered later in Ch. 3. A few verbs are defined in terms of the features that count as agent or ergatum. A separate section will be provided for verbs having a component of cause.

2. Verbs of Motion with Components of Aspect

2.0 The term 'aspect' is used to refer to a mode of apprehension by which a movement is viewed as continuing, starting or ending. There are at least three levels at which such varieties of aspect are indicated in English.

First, aspect is indicated by a combination of a verb lexeme with certain other 'grammatical' lexemes. For example,⁷

He is walking. (be -ing: 'durative') ---(1)

He has walked ten miles. (have -en: 'retrospective') ---(2)

He is going to walk ten miles. (be going to: 'prospective')

---(3)

Second, it is marked by a combination of a verb lexeme with certain other 'non-grammatical' lexemes. For example:

He continued walking. (continue: 'continuative') ---(4)

He finished walking. (finish: 'perfective') ---(5)

He began to walk. (begin: 'ingressive') ---(6)

Third, it is indicated by the verb itself.

He started. ('ingressive') ---(7)

He arrived. ('egressive') ---(8)

2.1 For our present purposes, the first and the second cases can be left out of consideration, since, in these cases, aspect is attributable to the lexemes with which the verb of motion comes into combination. What concerns us here is the third case in which aspect is indicated by the verb lexeme itself. In the examples given above, we can assign the components 'ingressive' and 'egressive' to the verbs start and arrive, respectively, because these verbs, in all the contexts in which they occur, indicate the notions of ingress and egress. Cf. for example:

They started from his house. ---(9)

They started for his house. ---(10)

They arrived from his house. ---(11)

They arrived at his house. ---(12)

In other words, the components 'ingressive' and 'egressive' are 'invariants' (in Hjelmslevian sense) with these verbs.⁸

2.2 Many verbs, on the other hand, are indefinite as to aspect. These verbs have two characteristics: (1) they do not refer to particular parts of a movement (e.g. its beginning, end), but represent it as of

indefinite duration, and (2) their aspect is dependent on the context in which they occur.

Cf. He descended the tree. ('imperfective') ---(13)

He descended from the tree. ('perfective') ---(14)

He climbed up the hill. ('imperfective') ---(15)

He climbed on the hill. ('perfective') ---(16)

Notice that the components of movement and direction (and also the component of 'holding' in the case of climb) remain unchanged, but the aspect is modified by the type of the context which accompanies the verb. In (13) and (15), the verbs are understood to be 'imperfective,' because the objective case form in (13) and the preposition up in (15) imply a certain stretch of distance over which the movement is made in certain duration. The prepositional phrases in (14) and (16), on the other hand, constrain an interpretation by which only the final part of the movement is in focus. We will consider that such aspectual variations are contingent upon the context and thus do not constitute emic differences. To give other examples, compare the following:

*He runs immediately. ---(17)

He ran immediately. ---(18)

Run immediately. ---(19)

Notice that in (18) and (19) run can be paraphrased as 'start running,' while this would be impossible in (17). We will consider that the meaning of run remains invariable in the three sentences and that the ingressive aspect conferred on the verb in (18) and (19) is due to the particular context in which the verb occurs (i.e. the past tense and the imperative mood).⁹

What we have then is a scheme like the following:

Marked ----- I. Ingressive-----start, etc.

II. Egressive-----arrive, etc.

Unmarked ---III. Indefinite-----walk, etc.

We will thus set up two components of aspect, 'ingressive' and 'egressive.'¹⁰

2.3 Most of the verbs with components of aspect have components of other types as well. Compare, for example, the following correspondence:

	Ingressive	Indefinite	Egressive
	begin	---	end, stop, finish
motion in general	start	move, go	stop
	(i.e. begin to change place)	(i.e. change place)	(i.e. cease changing place)
motion toward destination	depart, set off	go, travel	arrive
flying of/by plane	take off	fly	land
flying of birds	---	fly	alight
sailing of ship	(set) sail	sail	---

For the sake of convenience, we will here also include those verbs which are not marked by components of aspect or any other type of component.

/go¹/: 'go¹'

Realized as move, go (3.4.1.1, 3.6.5)

Move and go are the verbs of motion that are least marked. The movements that are referred to by them are not marked as to direction, speed, mode, manners or means of the movement, the space in which the movement is made, etc. These latter features are specified, if necessary, by adding adverbial elements. Both move and go can take either an agent or an ergatum. - Cf.:

He moved/went up to the desk and stood looking at it.

She kissed him and moved/went away.

They moved/went toward the skiff.

He tilted the table and the cup moved/went a few inches toward the edge.

It must be noted that move is also used in reference to a motion which does not involve change in locus on the part of the moving object (e.g. the wheel began to move around the axis). Go is also used with certain components of direction: cf. 3.4.1.1, 3.6.5.

/start/: 'go'¹ + 'ingressive' // 'Agent'

Realized as start (cf. 3.4.1.1).

The use of the verb start in question here is different from the one involving the feature of destination: cf. 'I'm just feeling the heat a bit. I'll be better when the car's started' and 'I think we ought to be starting for home.' Thus a sentence like the car started, without any context, would be ambiguous: 'the car began to move' or 'the car started for some destination.'

Notice that the verb takes only an agent. Cf. :

She turned and started toward the door.

The table was tilted and the cup *started toward the edge (cf. the cup began to move toward the edge).

Notice that componentially the same expressions, start and begin to move are semologically different. Only the latter can refer either to agent or ergatum.

/stop/: 'go'¹ + 'egressive'

Realized as stop.

Unlike start, which can refer only to an agent, stop is unmarked as to the distinction between voluntary and non-voluntary motions. Cf. 'The traffic light turned red and the car stopped' and 'The car skidded, hit the stone wall and stopped.'

3. Verbs of Motion with Components of Direction

3.0 There can be an infinite variety of direction. In geometry or in physics, direction is defined in terms of deviation from the axes set on a plane or in space. The vocabulary of language, on the other hand, provides only a limited number of expressions for the indication of direction. Moreover, the bases on which they define direction are not necessarily the same. Notions like 'eastward,' 'westward,' etc. are defined in relation to the earth's axis of revolution. 'Upward' and 'downward' are defined in relation to the gravitation. Notions like 'forward,' 'backward' and 'sideward' are, however, more relative ones. A man moves 'forward' if he is moving to the direction to which he faces; a car moves 'forward' if it is moving to the direction to which the driver behind the wheel faces; a thing moves 'backward' if it is moving in the direction opposite to the one to which it habitually moves or to which it has been moving. The notions of 'inward' and 'outward,' again, presuppose a certain area in which the agent is going to be or has been contained. A notion like 'homeward' is still more specific and the existence of such a term reflects the practical purposes for which language serves. An extremely important case is the indication of direction by 'here' ('hither') and 'there' ('thither') which, like 'this' and 'that,' belong to the deictic system of language as linguistic conventions.

3.0.2 Even apart from the diversity of criteria by which direction is defined in language, direction as a linguistic category is by no means a homogeneous one. It is often mixed with the notion of destination. Theoretically, three cases must be distinguished: (1) a place is understood as a place and no more, (2) a place is understood as the destination to which the movement is directed, (3) a place is understood as lying in the direction to which the movement is directed. The first case

is irrelevant to the notion of movement. In the second case, the movement is viewed as directed to and ending at the place conceived of as destination. In the third case, the movement is looked upon only as directed to a certain place and the possibility of the eventual arrival at this place is not of primary concern. Schematically, the prepositions, at, to and toward, correspond to the three cases mentioned above. Cf.

He stayed at her house.

He went to her house.

He went toward her house.

Since to and toward contrast semantically, as is seen in examples like: he went toward her house and arrived there in a minute vs. *he went to her house and arrived there in a minute, (in case there refers to 'her house') we will treat destination and direction as separate categories, represented by 'to' and 'toward.' Adverbs like upward, downward, forward and backward serve only as indicators of direction, and are considered as composed of the component 'toward' plus 'up,' 'down,' 'fore' and 'back' ('up,' etc. implying 'a place in the upper region,' etc.). They contrast with adverbs up, down, back, which imply destination rather than direction and thus can be defined as composed of the component 'to' plus 'up,' 'down' and 'back,' respectively. Cf.

He came downward/down.

He came toward/to me.

The contrast between 'to' and 'toward' may sometimes be neutralized (as in go² and come).

We can define 'from' and 'away' as complementary notions of 'to' and 'toward.' The difference is that while the former pair are defined in reference to the destination, the latter are relative to the point of origin of the movement. The contrast through 'to' vs. 'from' and 'toward'

vs. 'away' constitutes the first dimension on which the components of direction are defined. Thus the difference in meaning between such verbs as arrive and depart involves, among other things, a contrast on this dimension: i.e. arrive = 'go' + 'to' + ... and depart = 'go' + 'from' + ... Depart and leave are partially similar in that they are marked by 'from,' but are different in that depart implies 'toward,' while leave implies 'away.'

3.0.3 Theoretically, any movement can have its point of origin as well as point of destination, and a movement to or toward the latter is at the same time a movement from or away from the former. Thus it is possible to say:

He arrived at her house (destination).

He departed for her house (destination).

He arrived from her house (origin).

He departed from her house (origin).

There are, however, some verbs that do not behave this way. Cf.:

*He parted to her (destination).

He headed for her house (destination).

He parted from her (origin).

*He headed from her house (origin).

We will account for this by setting up a second dimension of contrast, which is constituted by 'origin-oriented' and 'destination-oriented.' The verbs part and head are thus 'origin-oriented' and 'destination-oriented,' respectively, while arrive and depart are unmarked as to either.

3.0.4 There is still one more set of components of direction that we need. The contrast between these components is seen in such sentences as he came here/this way/to me versus he went there/that way/to her. In the former, the direction or destination is seen as one in which the speaker

(actually or psychologically) places himself and which thus serves as a kind of reference point where the focus of attention is laid. The direction or destination referred to by the latter, on the other hand, are not characterized that way. We will designate the two features by 'R' (standing for 'reference point') and 'non-R.' These constitute a third dimension of contrast.

Notice that what 'R' and 'non-R' represent are modes of reference. They do not imply that there are such places as 'R' and 'non-R.' The fact is rather that a given place is referred to as 'R' or 'non-R.' This seems to put the two features on the same level as what we call relating features (e.g. 'agent,' 'ergatum'). Notice also the close correlation between 'R' and 'non-R,' on the one hand, and certain items in the deictic and pronominal systems, on the other. 'R' correlates readily with proximity deixis and the first and the second persons, while 'non-R' is related to remoteness deixis and the third person. We will discuss 'R' and 'non-R' later in more details (cf. 3.6).

3.1.1 Verbs of Motion with Components 'Upward,' 'Up'

/ascend/: 'go¹' + 'toward' + 'up' (+ 'on')

Realized as ascend, climb (cf. below and 11.3), mount (cf. below)

/mount/: 'go¹' + 'to' + 'up' // 'Agent'

Realized as mount (cf. above), climb (cf. above and 11.3).

/rise/: 'go¹' + 'toward' + 'up'

Realized as rise.

/soar/: 'go¹' + 'to' + 'up' + 'in' + 'air'

Realized as soar.

The contrast between /ascend/ and /mount/ depends on that of 'toward' (+ 'up') and 'to' (+ 'up') and the optional presence or total absence of the component 'on.' This component 'on' (i.e. ascend the hill = 'go

upward on the hill'), together with 'toward,' emphasized the notion of process of movement rather than of its completion (which is implied in the component 'to' of /mount/). The contrast is neutralized in the case of climb and mount.

He ascended/climbed/mounted the stairs/hill.

He climbed/mounted/*ascended on the stool.

The neutralization of 'to' and 'toward' in the cases of climb and mount is probably helped by the possibility of such a combination as they climbed the tower steps to the roof, where 'the path toward' is specified together with the goal. At this stage, however, climb need not be defined as involving 'to' + 'up' rather than 'toward' + 'up,' since to simply specifies the point reached by a motion toward something. Similarly in he ascended to the top, where the notion of the path is implied. But with a preposition on, we have to assume that the notion of 'to' belongs to the verb. Ascend does not admit of this construction: hence it is considered as not involving 'to.'

/rise/ differs from /ascend/ in that it refers only to cases in which the object makes a movement without having any contact with some solid support or footing (such as stairs and ladders). Cf.

A balloon rose into the sky.

*He rose up the ladders.

Finally, soar is partly related to fly in that it has a component of space. Cf.

An eagle soared high in the air.

3.1.2 Verbs of Motion with Components 'Downward,' 'Down'

/descend/: 'go'¹ + 'toward'/'to' + 'down' (+ 'on')

Realized as descend.

/fall/: 'go'¹ + 'toward'/'to' + 'down' + 'free' // 'Ergatum'

Realized as fall.

/drop/: 'go¹' + 'toward'/'to' + 'down' + 'free' + 'momentaneous'
 //'Ergatum'

Realized as drop.

'Toward' and 'to' seem to be regularly neutralized. Notice that quite reasonably the component 'down' tends to take 'ergatum.'

He descended (from) the tree.

The balloon descended/fell in the field.

He fell from the tree.

The contrast between /fall/ and /drop/ as to aspect is seen in examples like the following:

Satan fell nine days to hell.

*Satan dropped nine days to hell.

Fog fell on them.

*Fog dropped on them.

/drip/: 'go¹' + 'toward'/'to' + 'down' + 'free' + 'momentaneous'
 //'Ergatum'

('liquid')

Realized as drip.

Rain is dripping from the tree.

/sink¹/: 'go¹' + 'toward'/'to' + 'down' + 'free' + 'slow' //'Ergatum'

Realized as sink (cf. 3.3.1)

The sun sank in the west.

Heavy clouds began to sink lower.

The use of sink referring to a movement into water is treated as separate, since there are expressions that are uniquely understood in that sense (e.g. the man sank like a hammer) and also a sentence like the stone sank (without any context) would be felt not as generic and monosemous but

rather polysemous and therefore ambiguous. (On the criteria, see 13.2.4)

3.2.1 Verbs of Motion with Components 'Forward,' 'Forth'

The notion of 'forward' may comprise three cases.

(a) The object is moving to what, in that particular situation, is understood as the 'front.' Thus, in the battlefield, 'forward' refers to that direction in which the enemy is found.

(b) The object is moving in the direction to which it is habitually supposed to move.

(c) The object is moving in the same direction to which it has been moving.

In the semological structure of English (a) and (b) are not distinctive, but (c) is sometimes distinctive. While all the three can be realized as forward, (c) may also be realized as onward(s). We represent (a) and (b) together as 'toward' + 'fore¹' and (c) as 'toward' + 'fore².' The contrast between the two is seen in /advance/ and /proceed/.

/advance/: 'go¹' + 'toward' + 'fore¹' //'Agent'

Realized as advance

/proceed/: 'go¹' + 'toward' + 'fore²' //'Agent'

Realized as proceed, make one's way.

They stopped a short time and then advanced to take position
as vanguard.

They stopped a short time and then proceeded to take position
as vanguard.

They proceeded/made their way home.

3.2.2 Verbs of Motion with Components 'Backward,' 'Back'

We can make the same distinction here as in the case of 'forward.'

a) The object is moving to what, in that particular situation, is understood as the 'back.'

b) The object is moving in the direction opposite to that in which it is habitually supposed to move.

c) The object is moving in the direction from which it came.

(a) and (b) are usually referred to by back, while (b) is denoted by backward. Semologically, however, there is need of distinguishing between all three and we will represent them as 'toward' + 'back¹,' 'toward' + 'back²,' and 'toward' + 'back³,' respectively. The contrast is seen among such verbs as recede, retrograde, return and withdraw. Most of these verbs, some of which are polysemous, have components other than 'back' as well. Some of them, again, are tactically restricted.

/retreat/: 'go¹' + 'toward'/'to' + 'back¹/'back³' + 'away' // 'Agent'

Realized as retreat, withdraw.

/recede/: 'go¹' + 'toward'/'to' + 'non-R' + 'back¹' + 'away'

Realized as recede.

/retrograde/: 'go¹' + 'toward' + 'back²' // 'Agent' ('planets')

Realized as retrograde.

He saw a band of men who seemed to advance and retreat even as he watched.

The enemy retreated/withdrew from the position.

The apparition receded from us/*to us.

Two points may be noted. First, /retrograde/ does not have 'toward' and 'to' neutralized. Second, recede has the same component as go² (i.e. 'non-R': cf. 3.6). For return, see 3.4.2.1

3.2.3 Verbs of Motion with Component 'Sideways'

'Sideways' as a component of direction can again mean one of three things:

a) toward the direction which in that particular situation is understood as 'side.'

b) toward the direction at about ninety degrees from that to which the agent is usually supposed to move, and

c) (moving) side first.

Since none of these three cases seem to contrast in the meanings of verbs of motion ¹¹, we will treat 'sideward' (= 'to' + 'side') as a component covering all of them.

/skid/: 'go¹' + 'toward' + 'side' + 'at the same time as' + 'slip'

// 'Ergatum' ('vehicles')

Realized as skid.

The car skidded on a slippery road.

3.3.1 Verbs of Motion with Components 'Inward,' 'In'

Theoretically, there may be two cases:

a) The object goes inside a certain confined area: i.e. 'to' + 'in.'

b) The object goes into a more 'interior' part of an area: i.e. 'toward' + 'in.'

While most of the verbs have (a) as the distinctive feature, some may vacillate between (a) and (b). Cf. penetrate. This latter sense, however, merges with that of 'through' (cf. 4).

/enter/: 'go¹' + 'to' + 'in' + 'egressive'

Realized as enter

He entered the room/the wood.

The bullet entered his flesh.

The bier entered the room, carried by three men.

The verb is in fact the counterpart of arrive, the distinction being that the destination is conceived of in the former explicitly as a point contained in an area rather than simply as a point as in the latter.

/board/: 'go¹' + 'to' + 'in' + 'vehicle' // 'Agent' ('animals')

Realized as board, get on.

We boarded/got on the train.

/invade/: 'go¹' + 'to' + 'in' + 'hostile'

Realized as invade.

They invaded the neighboring country.

The verb is situated on the fringe of the category of verbs of motion because of its emphasis on components other than that of movement (cf. 0.4).

/penetrate¹/: 'go¹' + 'to' + 'in' + 'forcible'

Realized as penetrate (cf. 4).

The bullet penetrated his flesh.

He penetrated the wood/crowd.

His feet felt like ice as the snow penetrated the holes of his shoes.

Notice that because of the feature 'forcible' the moving object is liable to be understood as 'agent' even in a sentence like the third one above. The second sentence represents a transition from the present sense to one involving the component 'through' (cf. 4).

/pierce/: 'go¹' + 'to' + 'in' + 'forcible' + 'momentaneous' // ('pointed instrument')

Realized as pierce.

The arrow pierced his flesh.

Notice that pierce and penetrate are componentially hyponyms: the former has an additional component 'momentaneous' over and above the components possessed by penetrate. The former is also more restricted in tactics.

/sink²/: 'go¹' + 'to' + 'in' + 'liquid' // 'Ergatum'

Realized as sink (cf. 3.1.2).

He/The ship sank in the water.

This sense usually merges with the one discussed in 3.1.2.

/submerge/: 'go¹' + 'to' + 'in' + 'liquid' + 'whole'

Realized as submerge.

/dive¹/: 'go¹' + 'to' + 'in' + 'liquid' + 'whole' // 'Agent'

Realized as dive (cf. 11.3).

The submarine submerged/dove under the water.

The wires, where they submerge, should be flattish at the sides.

Unlike the verb sink, the verbs submerge and dive (in the present sense) require the complete submersion of the moving body. The latter two are further distinguished by different tactical ranges.

/leak/: 'go¹' + 'to' + 'in'/'out' + 'through' + 'pores' // 'Ergatum' ('fluid')

Realized as leak.

Water leaks in/out.

The verb refers either to an inward or an outward movement.

3.3.2 Verbs of Motion with Components 'Outward,' 'Out'

We can make the same general remark on the components 'outward' and 'out' as the one we made in 3.3.1 with regard to 'inward' and 'in.' Most of the verbs here imply reference to a certain defined area from which the movement starts. Otherwise the notion of 'outward' merges with that of 'through.'

/get off/: 'go¹' + 'to' + 'out' + 'from' + 'vehicle' // 'Agent' ('animals')

Realized as get off.

He got off the train.

The verb descend can apply to the same situation but with the conno-

tation of 'downward.'

/issue/: 'go'¹ + 'to' + 'out' + 'from' //('fluid')

Realized as issue.

Smoke issues from the chimney.

Blood issues from the wound.

/gush/: 'go'¹ + 'to' + 'out' + 'from' + 'forcible' //('fluid')

Realized as gush.

Blood gushed from the wound.

/emerge/: 'go'¹ + 'to' + 'R' + 'out' + 'from' + 'so as to' + 'seen'

Realized as emerge.

A man emerged from behind the wall.

Something emerged out of the water.

Notice that the verb emerge denotes a movement toward a reference point ('R')¹² rather than away from it. (Cf. recede.) Thus in the two sentences above, emerge can only properly be substituted by come, while the verb issue, for example, can be replaced either by come or go. It is also to be noted that it is only a step from emerge to appear. The difference is simply that the latter emphasizes the notion of visibility, which, however, is only a subordinate component in emerge. For the representation of the component of result in the passive form, see 19.2.

/well/: 'go'¹ + 'to' + 'R' + 'out'/'up' + ('through' + 'pore(s)')
//('fluid')

Realized as well.

Tears welled up in her eyes.

The verb also apparently requires the component 'R' as in the case of emerge.

/ooze/: 'go'¹ + 'to' + 'out' + 'through' + 'pore(s)' + 'slow'

/'('liquid')

Realized as ooze, exude.

Blood oozes/exudes from the wound.

Ooze and exude are apparently closest situated to the category of verbs with the component 'through.'

3.4 Verbs of Motion with Components 'From,' 'To'

The verbs of this category imply reference either to the starting point or to the point of destination. The pair of components, 'from' and 'to,' are in a sense parallel to the pair, 'outward' and 'inward,' the difference being that the reference is made in the former to a 'point,' while in the latter to an 'area.' Cf.

He went away from the house.

He went out of the house.

He came/went to the house.

He entered the house.

Compare the relation between the components 'by' and 'through' to be discussed in 4.

The verbs go and come belong to a special subcategory of this class and will be given a separate treatment.

3.4.1.1 'From'

/depart/: 'go'¹ + 'from' + 'R' + 'toward' + 'ingressive'

Realized as depart, start (cf. 1.4).

The first train in the morning will depart/start from this station at eight. ---(1)

Depart belongs to literary style. Notice the necessity of assigning the component 'R.'¹³ This is tested by the fact that in (1) above, go but not come is substitutable for depart or start. In this respect, depart and start are antonymous to arrive, which admits of

substitution only by come. Notice, however, that while depart and start also imply 'destination' (cf. the contrast with leave, which does not), the implication of 'origin' does not seem to be obligatory for arrive.

/leave/: 'go¹' + 'from' + 'R' + 'away' + 'ingressive' // 'Agent'

Realized as leave, go (cf. 2.4, 3.5.5).

The first train in the morning will leave this station at eight. ---(2)

The train has just left/gone.

Notice that Sentence (2) refers to the same situation as (1), but the difference in 'nuance' is accounted for by the component 'toward' in depart and start and 'away' in leave.

/quit/: 'go¹' + 'from' + 'R' + 'away' + 'origin-oriented' + 'ingressive' // 'Agent' ('animals')

Realized as quit.

He quitted the city at midnight.

The verb implies reference to the point of origin. A sentence like he quitted for Europe would not sound quite natural.

/separate/: 'go¹' + 'from' + 'away' + 'non-destination-oriented' + 'ingressive' // 'Agent'

Realized as separate, part (cf. below).

I separated/parted from my companion.

This may as well be analyzed as involving a component of result: i.e. 'go from ... so as to be away.' Notice that either separate or part cannot take an indication of the point of destination alone: *she separated/parted to me.

3.4.1.2 Some of the verbs having the component 'from' refer to a movement in which more than one moving object is involved.

/part/: 'go'¹ + 'from' + 'origin-oriented' + 'so as to' + 'away'
+ 'from' + 'each other'

Realized as part, separate (cf. above).

The brothers parted/separated from each other.

/disperse/: 'go'¹ + 'from' + 'R' + 'so as to' + 'away' + 'from'
+ 'each other'

Realized as disperse, scatter.

The crowd dispersed/scattered. --- (3)

The clouds dispersed/scattered.

Both disperse and scatter must be assigned a component 'from R,' because they can be replaced (though not entirely equivalent but without resulting in any contradiction) by go (away), but not by come. The component of result is necessary to distinguish it from such a phrase as go away. Compare the sentence the crowd went away with (3) above.

3.4.2.1 'to'

/arrive/: 'go'¹ + 'to' + 'R' + 'egressive'

Realized as arrive.

He has just arrived from/in Europe.

Two letters have arrived for me today.

Arrive is one of the members of a series of verbs denoting a destination-directed movement: cf. the series depart/start ('ingressive') - go² - arrive ('egressive'). The verb can take indications of either origin or destination. For the contrast with the verbs reach and get, see 3.6.

/repair/: 'go'¹ + 'to' + 'non-R' + 'destination-oriented' (+ 'habitual')
// 'animals,' 'vehicle'

Realized as repair, resort, betake oneself (archaic).

Many people repair/resort/betake themselves to warmer climes
in winter.

The verbs here apparently do not take phrases having the component
'R:' cf. *he repaired/resorted/betook himself to me. Notice also
the necessity of the component 'destination-oriented:' cf. *he
repaired/resorted/betook himself from here. The verbs may be said
to be polysemous in so far as the component 'habitual' is option-
ally chosen.

/visit/: 'go'¹ + 'to' + 'destination-oriented' + 'in order to' + 'see'
// 'animals,' 'vehicle'

Realized as visit.

Many people visit this place.

Did he ever visit here when he was a child?

The verb visit is on the fringe of the category of verbs of motion.
What it denotes vacillates between 'go to see' and 'see by coming.'
Thus a sentence like we are visiting Europe is ambiguous between
'going to Europe for the purpose of sight-seeing' and 'seeing around
Europe.' In the latter case, visit is no longer a verb of motion.
The verb does not take an indication of the point of origin unless
the destination is also mentioned: cf. *we visited from Europe.

/return/: 'go'¹ + 'to' + 'R' + 'back'³ + 'egressive'

Realized as return.

The murderer will return to the scene of his crime.

If I don't see you when I return, see you for certain at my
office.

The component 'back'³ has already been discussed in 3.3.2: it
refers to the place or direction from which the moving object
started. Notice the components, 'to,' 'R' and 'egressive' (cf.

*he began to return, *he returned from me); these make the verb correlate closely with arrive (cf. above).

/haunt/: 'go'¹ + 'to' + 'destination-oriented' + 'habitual'/'frequent'

// 'Agent' ('animals')

Realized as haunt, frequent.

They haunt/frequent the lowest resorts.

The verbs haunt and frequent are again at the periphery of the verbs of motion. In many cases, the verbs can almost be replaced by a verb like reside, as in: ghosts haunt the old castle. The component of manner vacillates between 'habitual' and 'frequent.' Neither haunt nor frequent take an indication of the point of origin unless the destination is also mentioned: cf. *they haunt/frequent from the suburbs.

3.4.2.2 Some verbs with the component 'to' require a collective or a mass agent.

/assemble/: 'go'¹ + 'to' + 'R' + 'egressive' + 'so as to' + 'together'

// 'Agent' ('collective')

Realized as assemble, meet.

People assembled/met in front of the palace. --- (4)

The verbs assemble and meet have the component 'to R'¹⁴ and 'egressive.' This is tested by seeing that a sentence like (4) can be paraphrased as people came before (or to the front of) the palace, but not people went before (or to the front of) the palace. The component of result is further necessary to account for the difference between people came before (or to the front of) the palace and (4).

/gather/: 'go'¹ + 'to' + 'R' + 'egressive' + 'so as to' + 'together'

// ('collective,' 'mass')

Realized as gather.

People gathered in front of the palace. ---(5)

Water gathered to the pond. ---(6)

The meaning of gather is like that of assemble, except that it can also be used about a fluid. Assemble can be substituted for gather in (5) but not in (6).

3.5 Verbs of Motion with Components 'Toward,' 'Away (from)'

Many of the verbs with either of these components have other components as well and are discussed in other sections.

/head/: 'go'¹ + 'toward' + 'destination-oriented' // 'Agent'

Realized as head, make for.

The plane headed/made for the south.

Head and make for refer to a movement directed to some place without, however, implying the final arrival of the agent at a certain destination. Compare: the man made for the door, but could not reach it and the man went to the door. Both head and make for obligatorily take a phrase indicating the destination.

/approach/: 'go'¹ + 'toward' + 'so as to' + 'near' // 'Agent'

Realized as approach.

He approached her.

He approached from behind the door.

The verb denotes a movement toward something and implies that the agent will be near to it. It can take an indication either of the destination or of the point of departure, as in the two examples above.

/reach/: 'go'¹ + 'toward' + 'destination-oriented' + 'egressive'

Realized as reach, get.

We will not reach/get to the town before dark.

The supplican had not reached the rural hospitals.

Reach or get (to) is correlated with go toward, as arrive is correlated with go to. Cf.: they made for the summit but could only reach the first ridge and they started for the summit and arrived there in five hours. Note the contrast between make for and start, too. Reach or get to does not imply that the place the agent has attained is the final destination.

/draw¹/: 'go¹' + 'toward'/'away'

Realized as draw (cf. 15).

We drew round the table. --- (7)

Everybody drew back in alarm. --- (8)

They drew away from the others. --- (9)

The verb refers to a movement either toward or away from something.

The necessity of the component 'toward' is seen from an example

like (7). Notice the difference between it and the sentence: we

moved round the table. It would also be impossible to substitute

draw for either go or move in: the earth goes/moves round the sun.

3.6 'R' and 'non-R'

The verbs go and come have certain peculiar components. In order to define them, we will examine in detail some of the representative situations in which these verbs are used.

3.6.1 We have the following alternations when a personal pronoun serves for the indication of destination or direction. Sentences with an asterisk do not occur except in certain special contexts.¹⁵

I came to you. --- (1)

*I went to you. --- (1')

I went to him. --- (2)

I came to him. --- (2')

You came to me. --- (3)

*You went to me. --- (3')

You went to him. --- (4)

You came to him. --- (4')

He came to me. ---(5)

*He went to me. ---(5')

He came to you. ---(6)

*He went to you. ---(6')

He went to her. ---(7)

He went to her. ---(7')

We can see from the above (a) that come is obligatory when the destination is either the first or the second person, and (b) that go and come alternate in the case of the third person. From (a) we can tentatively define come as 'the first or second person oriented.'

3.6.2 With regard to (b), we must further note that go and come are here not entirely in free variation from the semological point of view. There are certain contexts in which come is obligatorily chosen even with the third person. Cf.

He told me I should come to him. ---(8)

He told you you should come to him. ---(9)

She told him he should come to her. ---(10)

In these sentences, come is obligatory if the person who told is identical with the person whom the person told is supposed to visit. The choice of come here is conditioned by the fact that sentences (8), (9) and (10), which are in indirect speech, are equivalent to the following sentences in direct speech.

He said to me, 'You should come to me.' ---(11)

He said to you, 'You should come to me.' ---(12)

She said to him, 'You should come to me.' ---(13)

The choice of come in (8), (9) and (10) is, therefore, based on the same principles as those defined for Sentences (1) - (7).

3.6.3.1 If, on the other hand, the person who told is not the same as the person to be visited, then go is obligatorily chosen. Cf.

John told me I should go to Bill. ---(14)

John told you you should go to Bill. ---(15)

Jane told him he should go to Ann. ----(16)

There is, however, one possibility that come instead of go is chosen for sentences like (14), (15) and (16). Thus,

John told me I should come to Bill. ----(17)

John told you you should come to Bill. ----(18)

Jane told him he should come to Ann. ----(19)

If we check the direct speech forms of these sentences, we will get the following:

John said to me, 'You should come to Bill.' ----(20)

John said to you, 'You should come to Bill.' ----(21)

Jane said to him, 'You should come to Ann.' ----(22)

The use of come in these sentences is thus in principle the same as (4') above and thus does not fall within the range of use defined by 'the first person or the second person oriented.'

A possible interpretation that can be given for sentences like (17) - (19) and those like (20) - (22) is that the person who told is supposed to be with the person to be visited when the visit is to be paid by the person who was told to do so. Thus, Bill in (17) and (18) (and similarly in (20) and (21)) and Ann in (19) (and similarly in (22)) means the same thing as 'Bill with whom I will be when you visit him' and 'Ann with whom I will be when you visit her,' respectively. In other words, 'the first person oriented,' which is a condition for the use of come, is here transferred and applied to a person who is with the first person.

3.6.3.2 In quite the same way, we can conceive of, and account for sentences like the following, which can be reduced to (2'). Cf.

John said to me, 'I should come to Bill, (,too).' ----(23)

John told me he should come to Bill (,too). ----(24)

John said to you, 'I should come to Bill (,too). ----(25)

John told you he should come to Bill (,too). ' ----(26)

Jane said to him, ' I should come to Ann (,too). ' ----(27)

Jane told him she should come to Ann (,too). ----(28)

The use of come is attributed to the fact that Bill in (23) - (26) and Ann in (27) - (28) really mean something like 'Bill with whom you will be when I visit him' and 'Ann with whom you will be when I visit her,' respectively. Here we find the notion of 'the second person oriented' is extended to cover a third person with whom the second person will be found.

3.6.4 The use of come as discussed in 3.5.3.1 and 3.5.3.2 may be considered as representing the first stage of the extended use of the verb. At this stage, the notion of 'the first and the second person oriented' is extended to cover all those cases in which the presence of either person is implied in one way or another. Thus an expression like your room (which is grammatically a third person) will require come (as in (29)) if the second person is found present in the room, but go (as in (30)) if he is not found there. Cf.

May I come to your room? ----(29)

May I go to your room? ----(30)

There is, however, a further extension of the notion of 'the first or second person oriented.' Cf.

After wandering over many countries for years, he finally came
back to his native land. ----(31)

Similar examples of the use of come will be found abundantly in any narrative, where neither the first nor the second person is conceivably involved. Cf., on the other hand,

After wandering over many countries for years, he finally went
back to his native land. ----(32)

The difference between (31) and (32) will be characterized by saying that

the narrator's point of attention is in 'his native land' in (31), while in (32) the same place is considered as lying in the periphery of his attention. We can define the use of come by saying that it is applied to a movement directed to a point which is taken as 'center' or 'focus of attention' in one sense or another. This definition of the use of come can also cover the cases discussed in 3.5.1 - 3.5.3. We will designate this center as 'reference point' (abbreviated as 'R'). In contrast, the component 'non-R' will be assigned to go. Notice that the contrast between 'to' and 'toward' is neutralized in the case of go and come. Cf.

He is going to/toward her. --- (33)

He is coming to/toward her. --- (34)

Thus 'to/toward' + 'R' will be assigned to come, while 'to/toward' + 'non-R' is given to go. In case it is found convenient, '(away) from' + 'R' will be used for the latter, as this and 'to/toward' + 'R' are complementary notions.

3.6.5 Come and go are thus represented as follows:

/come/: 'go¹' + 'to/toward' + 'R' + 'egressive'

Realized as come.

/go²/: 'go¹' + 'to/toward' + 'non-R'

Realized as go (cf. 2.4., 3.4.1.1).

Notice that the component 'egressive' is necessary for come: cf.

he traveled and came to the city in contrast to he came and traveled to the city. (The latter sentence is clearly odd, if 'the city' is the destination.) The use of go which contrasts with come is different from the use of the same verb with maximally generic sense (as in the earth goes round the sun); the two uses are distinguished by assigning superscripts, as 'go²' and 'go¹', respectively. Notice also that either 'go²' or 'come' can occur with an agent or an

ergatum. Some examples with an ergatic subject are given below:

The knife went into his chest.

His hand went to her shoulder

The suitcase had come while they were out.

When he felt the side of his head, his fingers came away covered with blood.

4. Verbs of Motion with Components of Passage

By the components of passage are meant those features which define the course of movement relative to a point or a space that serves for reference. They differ from the components discussed in the preceding section in that they do not involve directionality; they are also different from the components of course to be discussed in the next chapter in that they involve reference to a certain point, line or space.

As has been mentioned in 3.3.1 and 3.3.2, the components of passage are in many respects related to those of direction. Thus, the components of direction 'to' and 'from' have, as their counterparts, the components of passage 'by:' i.e. an agent comes to a point, passes (by) the point, and goes from the point. This component will be represented as 'by¹' in distinction from 'by²' which refers to means. 'Inward' and 'outward,' defined in relation to an 'area,' have their counterpart 'through:' i.e. an agent goes into an area, passes (through) the area and goes out of the area. There are further several other components of passage in English. For example, a movement from one side of a line to the other side or a movement from one end of a space to the other end of it is designated by 'across.' To distinguish between the two cases, we will employ 'across¹' and 'across²,' respectively. A component 'along' can be defined as referring to a movement which follows a certain line serving for reference. At this point, the notion of passage merges with that of 'course,' and

'along' will be treated as one of the components of course that are to be discussed in the next section. It will further be possible to conceive of components referring to a movement as going 'over' or 'under' a certain point, line or space. These features, however, do not seem to become components of verbs of motion.

/pass/: 'go'¹ + 'by'¹

Realized as pass (cf. below).

He passed by me. ---(1)

A car passed us. ---(2)

Allow me to pass, please. ---(3)

The parade passed along the street. ----(4)

The halls were empty and they passed down the stairs to the
second floor. ---(5)

The goblet passed from hand to hand. ---(6)

The verb pass can be used in combination with a variety of adverbial phrases, but its central use seems to be to apply to an object which moves past a certain point or area that serves for reference. The place that serves for reference, however, may or may not be explicitly stated. Thus, in a sentence like (3), the implication is 'to pass by you;' in (4), the implied reference point is the person who viewed the parade as it passed; similarly, in (5). When the reference is not clear, the meaning of the verb approaches that of proceed or make one's way (i.e. 'go'¹ + 'forward'/'onward'): cf. (4) and (5) above and especially such a phrase as: as I passed down the street,.... For another meaning of pass, cf. below. (6) has an ergatic subject.

/cross¹/: 'go'¹ + 'across'¹

Realized as cross (cf. below), pass (cf. above).

They crossed/passed the boundary/the river.

/cross²/: 'go¹' + 'across²'

Realized as cross (cf. above), traverse.

They crossed/traversed the country.

/penetrate²/: 'go¹' + 'through'

Realized as penetrate (cf. 4.3.1)

They penetrated the hostile village.

/soak/: 'go¹' + 'through' //('liquid')

Realized as soak, seep, percolate.

Rain soaked/sceped through the roof.

Water soaked/percolated through sand.

These verbs denoting a movement of liquid through something, are situated close to verbs denoting an 'outward' movement of liquid, e.g. exude, ooze (cf. 2.3.2).

/permeate/: 'go¹' + 'through' + 'so as to' + 'fill'

Realized as permeate.

Water permeates the soil.

5. Verbs of Motion with Components of Course

A set of components here designated as 'course' refer to changes in direction in the course of movement. That the notions of 'course' and 'direction' are mutually independent is apparent if we see, for example, that an expression like go upward does not specify whether the moving body goes up straight or circling or that a straight movement may be directed upward, downward, inward or outward or in fact in any direction.

It must be noted, however, that 'course,' in the sense of change in direction, can be defined in two ways. First, in an absolute sense, it refers to the change in direction of the agent while in motion. Second, in a relative sense, the agent may not change its direction, but may be

✓

going in a direction not intended for it.

Some of the important components of course are: 'straight,' 'aside' (here defined as 'deviating from the proper course'), 'astray' (here defined as 'deviating from the intended direction'), 'circular,' 'winding,' 'zigzag,' 'this way and that,' etc. Many verbs of this category, especially those with the components 'aside' and 'astray,' lost the notion of movement when applied to a thing of considerable length: e.g. the shoreline curves beautifully, a small path diverges from the main road, a path winds through the wood, a stream meanders through the field, etc.¹⁶ Some verbs (or some uses of certain verbs) with the component 'circular' are again excluded from the class of verbs of motion because they denote a circular motion around the axis or a center: e.g. the vane veered round to the north, the top is spinning merrily, a big wheel is rotating, etc.

/turn/: 'go'¹ + 'non-straight'

Realized as turn.

He turned to the left.

The earth turns round the sun.

The verb turn is the verb of the most general meaning in this category, being applicable to any movement whose course is not 'straight.'

/swerve/: 'go'¹ + 'aside'

Realized as swerve.

The car swerved off.

The ball swerved in the air.

/sheer/: 'go'¹ + 'aside' //('ship')

Realized as sheer.

The ship sheered off.

/follow³/: 'go'¹ + 'along'

Realized as follow (cf. 5, 12).

He followed the track.

/stray/: 'go'¹ + 'astray'

Realized as stray.

A sheep has strayed from the path.

/revolve/: 'go'¹ + 'circular'

Realized as revolve.

The earth revolves round the sun.

Compare the use of turn above.

/whirl/: 'go'¹ + 'circular' + 'speedy'

Realized as whirl, gyrate.

Leaves whirl/gyrate in the wind.

/wind/: 'go'¹ + 'winding'

Realized as wind.

The boat wound along the river.

/zigzag/: 'go'¹ + 'zigzag'

Realized as zigzag.

A drunken man zigzagged down the street.

6. Verbs of Motion with Components of Speed

Theoretically, there can be indefinitely many degrees of speed. The expressions, however, that language offers for the indication of the speed of a movement are semologically unevenly structured. It provides such items as fast, rapid, speedy, swift, quick, hasty, etc., which with more or less overlapping, refer to a (comparatively) high degree of speed, while slow is probably the only item that primarily refers to a (comparatively) low degree of the speed of movement.¹⁷ Notice that in such verbs of motion as crawl, creep, shuffle (along, off, etc.), drag one's feet, etc., 'slow' is a non-distinctive feature which follows automatically from

the features of mode. Notice also that the slowness implied by such verbs as dawdle, tarry and idle (along) is in a temporal (or psychological) rather than in a locomotive sense. However, some verbs (like ooze and exude) referring to the movement of liquid and sink referring to a downward movement will have to be assigned the feature 'slow.' We have, on the other hand, several verbs of motion, such as hasten, hurry, speed, etc., which refer to a speedy movement, irrespective of the mode of movement. Whatever difference there is between hasten and hurry on the one hand, and speed, on the other hand, can be correlated with the difference between hurried and speedy.¹⁸ It must be noted that the notion of speed usually also serves to cover the notion of 'acceleration,' i.e. 'change in speed.' Thus a sentence like you will have to hurry a bit may refer to a person who is already going in a hurry as well as one who is about to start.

/speed/: 'go'¹ + 'speedy'

Realized as speed, fly (cf. 15).

He sped home.

The car sped/flew down the street.

/dart/: 'go'¹ + 'speedy' + 'momentaneous'

Realized as dart, shoot.

She darted/shot like a hare down the corridor.

A boat darted/shot out from the creek.

/hasten/: 'go'¹ + 'hurried' // 'Agent' ('animals,' 'vehicle')

Realized as hasten, hurry, rush (7,16).

He hastened/hurried/rushed home.

Cars were hastening/hurrying/rushing along the highway.

Notice the contrast between: a javelin sped/flew through the air and *a javelin hurried through the air. It need not be added that

hurry and hasten are not necessarily used in locomotive sense
(e.g. hurry up referring to an act of collecting things, etc.).

7. Verbs of Motion with Components of Impetus

What we call components of 'impetus' here corresponds to the concept 'momentum' in physics. Only a (comparatively) large 'momentum' functions as a component in English and we will designate it as 'violent.' Two verbs of this category, dash and rush, are interpreted as practically synonymous, though the former probably will be associated with a greater amount of impetus than the latter.

/dash/: 'go'¹ + 'violent'

Realized as dash, rush (cf. 6, 16).

The children dashed/rushed out of the school gate.

/burst/: 'go'¹ + 'violent' + 'momentaneous'

Realized as burst.

He burst into/out of the room.

Blood burst from his wound.

/tumble/: 'go'¹ + 'toward' + 'down' + 'violent' // 'Ergatum'

Realized as tumble (cf. 10).

He tumbled down from the horse.

Barrels tumbled down the mountainsides.

8. Verbs of Motion with Components of Duration

8.1 The component of duration here refers to the length of time taken by a movement. There are three classes of verbs.

The first class, to which most verbs belong, comprise those verbs that are unmarked as to duration. Most typical are those verbs which refer to a movement as one that can be continued indefinitely or terminated at any moment, e.g. walk, run, fly, swim, etc., verbs with components of means such as sail, drive, ride, etc., some of the verbs with components of

direction such as rise, descend, advance, etc. Cf.

He walked for a moment/for a long time.

The second class is represented by such verbs as wander and roam. To be referred to by these verbs, the movement must at least be one that continues for some time. Cf.

He wandered for a long time/*for a moment.¹⁹

We will assign the component 'durative' to these verbs.

The verbs of the third class refer to a momentaneous act. Most of the verbs of this category denote a comparatively well-articulated piece of movement with its beginning and ending more or less clearly marked. Typical examples are such verbs as jump, bounce, step, drop, dip, etc. Jump, for example, denotes a movement starting with the separation of the feet from the ground and ending with the time when they reach the ground again. We will assign the component 'momentaneous' to these verbs. Notice that momentaneous verbs can also refer to a continuous movement which consists in the repetition of a momentaneous motion. Cf.

He jumped for a long time.

8.2 It must be noted that components of duration and components of aspect are independent from each other. All the three types of verbs discussed in this section are 'indefinite' as to aspect. Their aspect is dependent on the contexts in which they occur. Cf., for example:

Walk! ('ingressive')

He walked into a trap. ('egressive')

Wander thou through the wilderness! ('ingressive')

He roamed into a strange alley. ('egressive')

He jumped from the tree. ('ingressive')

He jumped onto the ground ('egressive')

Consider further the difference between 'long' (a component of duration)

and 'continuous' (a component of aspect). A movement can be 'continued' for a 'long' time or for a 'short' time. Verbs with components of duration are discussed in other sections where their principal components are discussed.

9. Verbs of Motion with Components of Distance

The components of distance here refer to the length of distance covered by a movement. These components can be variables that function independently from the components of duration. We can say, for example, it takes only a minute to travel there by rocket or it takes many days to travel to Venus; in either case the component of long distance found in travel remains invariable.

We will probably have to set up components indicating (comparatively) long distance and (comparatively) short distance.

/stir/: 'go'¹ + 'short distance' + 'momentaneous'

Realized as stir, budge.

If you stir/budge, I'll shoot you.

Notice that *stir/*budge for a long distance is incongruous. Both stir and budge are also common referring to a motion of a part of some object which is fixed at a certain point.

/travel/: 'go'¹ + 'far' + 'in order to' + 'visit' // 'Agent'

Realized as travel (cf. 2.3).

He traveled to Europe.

10. Verbs of Motion with Components of Manner

The components of manner here generally correspond to 'manner adverbials' as modifiers of verbs. The components of speed and impetus, which are discussed in separate sections, are really one type of component of manner, and it is only because speed and impetus are notions particularly relevant to movement that they are given a separate treatment.

Some of the possible components of manner are so closely related to the components of mode or of accompanying circumstances that it is sometimes difficult to determine which of them are essentially distinctive to the verb. In some cases, however, any of them can serve as distinctive features as well as any others. Compare, for example, 'proud' vs. 'in large steps' for certain uses of the verb stalk.

/glide/: 'go'¹ + 'smooth'

Realized as glide (cf. 11), slip (cf. below).

The ship glided/slipped through the water.

/stalk/: 'go'¹ + 'at the same time as' + 'step' + 'large' + 'proud'

// 'Agent' ('human')

Realized as stalk.

/strut/: 'go'¹ + 'at the same time as' + 'step' + 'large' + 'affected'

// 'Agent' ('human')

Realized as strut.

/amble¹/: 'go'¹ + 'at the same time as' + 'step' + 'leisurely'

// 'Agent' ('human')

Realized as amble (cf. 11.3, 14, 18).

/trot¹/: 'go'¹ + 'at the same time as' + 'step' + 'small'

// 'Agent' ('higher animals')

Realized as trot (cf. 11.3, 14, 18).

The cat leaped from the bed and trotted briskly toward the kitchen.

/steal/: 'go'¹ + 'secret'/'quiet' // 'Agent' ('higher animals')

Realized as steal, slide (cf. 11), slip (cf. 11).

They stole/slid/slipped into his room.

/march/: 'go'¹ + 'at the same time as' + 'step' + 'regular' + 'erect'

// 'Agent' ('higher animals')

Realized as march, pace.

The soldiers marched down the street.

He marched/paced up and down the platform.

Notice that the verb does not always require a plural agent.

/wade¹/: 'go¹' + 'at the same time as' + 'step' + 'laborious' + 'in' +
'liquid' // 'Agent' ('higher animals')

Realized as wade (cf. below).

He waded through the long weeds.

Since a sentence like the one above is judged as metaphorical, we

have a need of distinguishing /wade²/ from /wade¹/.

/skip/: 'go¹' + 'at the same time as' + 'jump¹' + 'light'
// 'Agent' ('higher animals')

Realized as skip.

11. Verbs of Motion with Components of Mode

11.1 The components of mode refer to those characteristic motions or acts which are performed by the agent in the course of movement and which more or less function as causing the agent's movement. The components of mode are thus situated in between those of accompanying circumstances, on the one hand, and those of means on the other. Some of those characteristic motions or acts can be referred to by certain verbs; some others, however, are not denotable by single verbs, e.g. swim, crawl, creep, climb, etc. Of the former type, we have a series of correspondence like the following:

Verbs of Motion	Components of Movement	Verbs denoting the Mode
walk	go ¹	step
roll	go ¹	rotate
tumble	fall (=go ¹ +downward)	rotate
glide/slide	go ¹	slip ¹

What the foregoing suggests is that a verb like walk is paraphrasable as 'go (by) stepping,' roll as 'go (by) rotating,' etc. In the paraphrases, by is put in the parentheses, because the accompanying features can be interpreted either as a simultaneously occurring action (i.e. 'go at the same as stepping,' etc.) or as something by which the movement is caused (i.e. 'go by stepping,' etc.).

11.2 A series of verbs that denote jumping, bouncing, and analogous movements have certain characteristics in common. They are verbs of motion at two levels. First, they denote a more or less upward movement caused by the elasticity of the agent, and second, they denote a successive shift in place caused by the repetition of such a movement.

In the former use, we can further distinguish between two cases. In the first case, the agent is already in motion, hits something and rebounds. In the second, the agent is at first stationary, but starts moving 'as if by a bound.' These two types contrast in a few cases. Thus, referring to a situation in which a man, who is supposedly dead, suddenly jumps up, we can say (1) but not (2):

The man suddenly jumped up. --- (1)

*The man suddenly bounced up. ---- (2)

Some verbs can be employed in either case.

The man suddenly bounded up. --- (3)

The thrown ball bounded off the fence. --- (4)

We can distinguish between the two cases by assigning to the second use the component 'back⁴.' This component is similar to 'back³,' which we have assigned to the verb return, but is of vaguer sort, because in rebounding the agent need not return exactly to or toward the point of origin. All that the component 'back⁴' requires is that the direction to which the agent rebounds lies on the same side as the point of origin.

Many verbs which are used in one of the two ways described above, are also employed to refer to a shift in location caused by a repeated occurrence of rebounding motions. Cf. (5) with (6) and (7) below.

The ball will hardly bounce/bound. --- (5)

The ball bounced from rock to rock. --- (6)

Antelopes bounded across the field. --- (7)

A sentence like the following will therefore be ambiguous:

He jumped across the field. --- (8)

The agent here may be a giant who crossed the field at one bound or an ordinary human who did the same thing by repeated jumping. Rebound is apparently used only as in (5), and this is also generally the case with spring. Ricochet, on the other hand, refers only to successive change in locus. Thus, we have the following scheme:

Verbs of Motion	Component of Movement	Verbs denoting the Mode
jump/leap	go ¹	jump/leap/spring
bounce/bound	go ¹	bounce/bound/rebound
hop	go ¹	hop
skip	go ¹	skip

11.3

/walk/: 'go¹' + 'at the same time as'/'by²' + 'step¹' // 'Agent'
('higher animals')

Realized as walk.

He walked forward.

/step²/: 'go¹' + 'at the same time as'/'by²' + 'momentaneous' // 'Agent'
('higher animals')

Realized as step.

He stepped forward.

Many of the verbs denoting certain special kinds of walking, such

as pace, march, strut, stalk, stagger, toddle, etc. can be defined by adding certain components of manner to 'walk.' Some of them have been discussed in 10.

/run/: 'go'¹ + 'at the same time as'/'by'² + 'mode'^{run} // 'Agent'
('higher animals')

Realized as run (cf. 18).

Some people can walk faster than others can run.

Notice that in their primary uses, the contrast between walk and run is not in terms of speed. A competitor in a walking race may in fact move much faster than others run. The difference is thus considered to lie in the mode of bodily motions that accompany walking and running.²⁰

/swim/: 'go'¹ + 'at the same time as'/'by' + 'mode'^{swim} // 'Agent'
('higher animals,' 'fish')

Realized as swim.

/creep/: 'go'¹ + 'at the same time as'/'by' + 'mode'^{creep} // 'Agent'
('higher animals')

Realized as creep, crawl.

The baby crept/crawled on the floor.

/climb/: 'go'¹ + 'at the same time as'/'by'² + 'mode'^{climb} // 'Agent'
('higher animals')

Realized as climb (cf. 4.1.1), scale.

He climbed/scaled the cliff.

Notice that /climb/ is unmarked as to direction: cf. climb up to the rooftop, climb out of the window, climb down to the street.

/dive²/: 'go'¹ + 'to' + 'in' + 'liquid' + 'at the same time as'/'by'² +
'mode'^{dive} + 'momentaneous' // 'Agent' ('animals')

Realized as dive (cf. 3.3.1).

/slide/: 'go¹' + 'at the same time as'/'by²' + 'slip¹'

Realized as slide (cf. 10), glide (cf. 10).

Children are sliding/gliding on the ice.

/jump¹/: 'go¹' + 'by²' + 'mode^{jump}' + 'momentaneous' // 'Agent'

Realized as jump (cf. below), leap (cf. below).

He jumped/leapt over the fence.

/jump²/: 'go¹' + 'at the same time as'/'by²' + 'jump¹' // 'Agent'

Realized as jump (cf. above), leap (cf. above).

He jumped/leaped around for joy.

/hop¹/: 'go¹' + 'by²' + 'mode^{hop}' + 'momentaneous' // 'Agent' ('higher animals,' 'birds')

Realized as hop (cf. below).

/hop²/: 'go¹' + 'at the same time as'/'by²' + 'hop¹' // 'Agent' ('higher animals,' 'birds')

Realized as hop.

We have to distinguish between /jump/ and /hop/ because of the difference in the mode of accompanying motion: i.e. hop denotes jumping on one foot or on two feet that are operated together as if they were one foot.

/spring/: 'go¹' + 'by' + 'rebound' + 'momentaneous' // 'Agent'

Realized as spring, bound (cf. below).

/bounce¹/: 'go¹' + 'back⁴' + 'by²' + 'rebound' + 'momentaneous'

Realized as bounce.

/bounce²/: 'go¹' + 'at the same time as'/'by²' + 'bounce'

Realized as bounce, bound.

/amble²/: 'go¹' + 'at the same time as'/'by²' + 'mode^{amble}' // 'horses'

/trot²/: 'go¹' + 'at the same time as'/'by²' + 'mode^{trot}' // 'horses'

/canter¹/: 'go¹' + 'at the same time as'/'by²' + 'mode^{canter}' // 'horses'

/gallop¹/: 'go¹' + 'at the same time as'/'by²' + 'mode^{gallop}'/'horses'

Realized as amble (cf. 10, 14, 17), trot (cf. 10, 14, 17), canter (cf. 14, 17), gallop (cf. 14, 17), respectively.

We have defined these four verbs denoting a horse's movement at different speeds in terms of components of mode rather than those of speed,²¹ because components for these verbs are at any rate unique and unique components are more common among those of mode than those of speed.

12. Verbs of Motion with Components of Relative Position

The verbs of this category refer to a movement of an agent as related locationally to another moving body.²² Thus, an agent is referred to as 'above,' 'below,' 'before,' 'behind,' etc. the latter. Actually, only a few of the possible relations are realized as single lexemes. In English, if the first agent is going before the second, it 'precedes' the latter. The reverse case is referred to by 'follow.' Follow, however, may be ambiguous. Cf.

The band went first, then followed the soldiers. ---(1)

He knew the way and we followed. ---(2)

Notice that in (2) the notion of positional relation is superseded by that of acquiescence and the actual positional relation between the two agents need no longer be exactly that of one going after the other (e.g. they may be walking side by side). Follow in (1) contrasts with precede, while follow in (2) contrasts with lead. The latter use of follow as well as lead will be treated in the next section.

A situation in which the agent is 'by' or 'with' the other agent is referred to by accompany. Accompany in sentences like (3) and (4) below can be paraphrased as 'go with:'

The father accompanied the child. ---(3)

The child accompanied the father. ---(4)

Notice that accompany does not allow of a paraphrase by come with. This seems to make this verb contrast with take. Cf. (3) with the following:

The father took the child. ---(5)

Actually, the difference between the two is that the component of accompanying circumstances is 'be with' in the case of accompany and 'have with' in the case of take. Compare also the following with (4) above:

The child took the father. ---(6)

The sentence implies that the child somehow knows the way to which the father is a stranger.

/precede/: 'go¹' + 'before'

Realized as precede.

The band preceded the regiment in the march.

The regiment is preceded by the band in the march.

/follow²/: 'go¹' + 'after'

Realized as follow (cf. 4).

The regiment followed the band in the march.

The band was followed by the regiment in the march.

Notice that the active and the passive of precede correspond to the passive and active of follow, respectively.

/accompany/: 'go¹' + 'with' //'Agent' ('higher animals')

Realized as accompany.

13. Verbs of Motion with Components of Accompanying Circumstances

In a movement referred to by a verb of this category, the agent makes a twofold motion. It moves at the same time as making a certain act which affects another thing in one way or other. The manner in which the agent affects the other thing is here termed 'accompanying circumstances.' This category is thus related, on the one hand, to that of verbs with com-

ponents of relative position and, on the other, to that of verbs with components of mode. It is, however, different from the former in that the agent 'affects' the other thing (in relation to which its movement is described) and from the latter in that two objects are involved in the movement.

The components of accompanying circumstances are some of them unique and some of them recurrent. As in the case of the components of mode, we will try to correlate them as far as possible with actually existing verbs. In many cases, one and the same verb serves for both purposes. Compare the following scheme:

Verbs of Motion	Components of Movement	Components of Accompanying Circumstances
carry	go ¹	having (with one)
take	go ²	having (with one)
bring	come	having (with one)
fetch	come back ³	having (with one)
pull	go ¹	pulling
draw	go ¹	pulling
push	go ¹	pushing
lead	go ¹ ---	leading
follow	go ¹	following

Cf.

He pulled/drew the cart up the hill. --- (1)

He pulled the cart, but it did not move. --- (1')

He pushed the cart up the hill. --- (2)

He pushed the cart, but it did not move. --- (2')

He led the people through the hall. --- (3)

He led the people in time of war. --- (3')

He followed her wherever she went. --- (4)

He followed her advice. --- (4')

The analysis here suggested is to regard the meanings of the verbs pull, push, lead and follow (as used in (1), (2), (3) and (4)) as 'go pulling,' 'go pushing,' 'go leading,' and 'go following' ('pull,' 'push,' 'lead,' and 'follow' as used in (1'), (2'), (3') and (4')), respectively. As is partly done in the analysis of verbs with components of mode, we will assume here the component 'at the same time as' as relating the component of movement with some component of accompanying circumstances.

It may be noted that some of the verbs of the present category also belong to the class of verbs with the causative component. Convey, for example, is a verb that belongs to this section so long as we have an agent moving with something (e.g. a driver and the freight). It is, however, a causative verb when we have one 'initiator' and one agent (e.g. a consignor and the freight). Thus a sentence like he conveyed it there is ambiguous, because either he himself may have taken the trouble of conveying it or he may have asked it to be conveyed by somebody else.

/carry/: 'go¹' + 'at the same time as' + 'have (with one)' // 'Agent'

Realized as carry, bear, convey (cf. below).

/take/: 'go¹' + 'to' + 'non-R' + 'at the same time as' + 'have (with one)' // 'Agent'

Realized as take.

/bring/: 'go¹' + 'to' + 'R' + 'at the same time as' + 'have (with one)' + 'egressive' // 'Agent'

Realized as bring.

These three verbs are counterparts of the verbs go¹, go² and come discussed in 2 and 3.5. Cf.:

He went to the next room and he had the book with him. --- (5)

He took/carried the book to the next room. ----(6)

He came to the next room and he had the book with him. ----(7)

He brought/carried the book to the next room. ----(8)

The analysis here suggests that (5) and (7) are paraphrases of (6) and (8), respectively. That the verbs take and bring are parallel to go² and come is seen from the following:

*You/*He will take the book to me. ----(9)

You/He will bring the book to me. ----(10)

*I/*He will take the book to you. ----(11)

I/He will bring the book to you. ----(12)

I/You/He will take the book to her. ----(13)

I/You/She will bring the book to her. ----(14)

The conditions by which the choice between take and bring as made in these and other examples are quite the same as those for go² and come. Notice that as a verb unmarked as to the component 'R,' carry corresponds to the least marked verb of motion go¹. Bear, which usually does not involve the notion of locomotion, is sometimes an equivalent of carry. Convey is a formal word corresponding to carry. Cf.:

The ship carried/bore/conveyed the cargo to a distant land.

----(15)

As seen from the example just quoted and from the following one, /carry/, /take/ and /bring/ can also take a non-animate agent:

The carriage took/brought him to the palace. ----(16)

/fetch/: 'go'¹ + 'from' + 'R' + 'and' + 'go'¹ + 'to' + 'R' + 'back'³
+ 'egressive' + 'at the same time as' + 'have (with one)'
// 'Agent'

Realized as fetch.

The verb fetch has a peculiar semological structure which can

roughly be paraphrased as 'go and bring back, (or more analytically) 'go and come back having something with oneself.' Thus neither the sentence (17) nor the sentence (18) in the following are exactly equivalent to (19):

He came back from the next room and he had the book with him.

---(17)

He returned from the next room and he had the book with him.

---(18)

He fetched the book from the next room. ---(19)

Specifically, the sentence (19) implies that he had gone to the next room from the place to which he came back, while in (17) and (18) he may have gone to the next room just from anywhere. The component 'and' as relating element is unique in the semological structure of the English verbs of motion. Usually, however, either of the two parts separated by 'and' is taken as subordinate to the other, just in the same way as a phrase go and see is often equivalent to go to see. There is a tendency to focus the attention on the latter rather than the first part in the semological structure of fetch, and the result is that the verb is often an equivalent of bring back. Cf., for example,

He has fetched the doctor. ---(20)

He has brought back the doctor. ---(21)

Go away and fetch the man down from the library. ---(22)

/transport/: 'go'¹ + 'at the same time as' + 'have (with one)' + 'by'² /
 'on' + 'vehicle' // 'Agent'

Realized as transport.

They are transporting my goods to my new address.

The verb transport has an added component indicating the means of

transportation by which something is carried. The component of means can as well be related to the component 'go¹' as with the component 'have (with one)'. The verb, however, is more commonly used in a causative sense.

/draw²/: 'go¹' + 'at the same time as' + 'pull¹' // 'Agent'

Realized as draw (cf. 3.5), pull.

/push²/: 'go¹' + 'at the same time as' + 'push¹' // 'Agent'

Realized as push.

/drag/: 'go¹' + 'at the same time as' + 'pull¹' + 'laborious' // 'Agent'

Realized as drag, haul, hale (archaic).

He dragged/hailed/haled the man before the magistrate.

/tow/: 'go¹' + 'at the same time as' + 'pull²' + 'vehicle' // 'Agent'

Realized as tow.

They are towing the car away.

/lead²/: 'go¹' + 'at the same time as' + 'lead¹' // 'Agent'

Realized as lead.

/follow⁴/: 'go¹' + 'at the same time as' + 'follow²' // 'Agent'

('higher animals')

Realized as follow (cf. 5, 12).

/guide²/: 'go¹' + 'at the same time as' + 'guide¹' // 'Agent'

Realized as guide, conduct.

He guided/conducted the people through the hall.

/usher/: 'go¹' + 'toward' + 'in' + 'at the same time as' + 'guide¹'

// 'Agent' ('human')

Realized as usher.

He ushered the people into the hall.

/drive⁴/: 'go¹' + 'at the same time as' + 'drive³' // 'Agent' ('human')

Realized as drive (cf. 14, 17).

He drove the cattle far into the field.

For 'drive²', see the section on causative verbs.

/goad²/: 'go¹' + 'at the same time as' + 'drive³' + 'by means of' +
'goad' //'Agent' ('human')

Realized as goad.

Goad is here interpreted as having an additional component ('with goad') over and above those of drive³. The verb is also used in a causative sense.

14. Verbs of Motion with Components of Means

The verbs of this category have as their distinguishing features certain types of moving bodies (i.e. 'vehicles' in a wide sense) upon which the movement of the agent is dependent. The role of the agent in relation to his 'vehicle' may either be 'operator' or 'passenger.' This distinction is necessary to account for the uses of certain verbs. Cf.:

He rode for miles without seeing anybody. ---(1)

He drove for miles without seeing anybody. ---(2)

In the latter, the agent is the operator (i.e. the driver of a car). Since, however, an operator is a passenger at the same time, a pair of sentences like the following may virtually refer to the same situation:

They rode for miles without seeing anybody. ---(3)

They drove for miles without seeing anybody. ---(4)

On the other hand, the role of the agent as operator or passenger is not distinctive for verbs like sail and fly. Cf.:

He sailed for miles without seeing any island. ---(5)

He flew for miles without seeing any island. ---(6)

The sentences may imply that the agent was either the operator or the passenger of the vehicle.

As an operator, the agent may perform certain characteristic acts

as a part of his operation, and these acts are denoted sometimes by a different verb from, sometimes by the same verb as, the one which refers to the movement caused by such operations. Cf. the following scheme:

Verbs of Motion	Component of Movement	Component Indicating the Performance of the Agent as Operator
drive ²	go ¹	drive ¹
row ²	go ¹	row ¹
cycle	go ¹	pedal
sail/navigate ²	go ¹	navigate ¹
fly ²	go ¹	fly ¹

Cf.

He drove for miles. --- (7) (drive²)

Can you drive? --- (8) (drive¹)

He rowed across the lake. --- (9) (row²)

He rowed very hard. --- (10) (row¹)

Whenever possible, we will define the verbs in the first column by making use of such correlations. Thus, verbs like drive² and row² can be defined as denoting movements by or accompanied with driving¹ and rowing¹, respectively. Notice that because of their contrasts with ride and sail, respectively, drive and row cannot be defined solely in terms of the types of vehicle (i.e. 'car' and 'boat') involved in the movement. In the case of the verb cycle, the particular kind of vehicle involved here make the verb usually apply to an agent as operator. The verbs ride and sail can be defined in terms of the particular kind of vehicle involved in the movement, as the distinction between the different roles of the agent is irrelevant here. Since an agent may be conceived of either as moving by means of the vehicle or as carried on them, we define the relevant compon-

ents here as 'by/on land transportation' and 'by/on water transportation.' We can alternatively define the components as 'by/on vehicle' plus a component of space specifying the particular type of space in which the movement takes place (i.e. 'land' or 'water'). Since this latter analysis will correlate the verbs more closely with fly, we will prefer this latter solution. Fly apparently needs a different treatment from ride and sail, since the verb can refer to any mode of movement through the air. Thus a sentence like he flew through the air is ambiguous, referring to his movement through the air by plane, by his own power (in whatever way it may be), by being blown up in an explosion, etc. The relevant component for the verb is, therefore, that of space which will be discussed in the following section. Finally, verbs like skate and ski can be defined in terms of the particular things worn by the agent when in motion. Since a pair of skis or skates is not what we call a vehicle and since we do not usually conceive of either as 'means of transportation,' we will only set up components 'on skis' or 'on skates' rather than 'on/by skis' or 'on/by skates.' Notice that the role of the agent is here exclusively that of operator. We do not have any verb, however, referring specifically to the agent's performance as operator.

From the above, it will be apparent that verbs in this section are of rather promiscuous sorts. From a viewpoint of semological structure, many of them are closely related to verbs with components of mode or accompanying circumstances.

/ride/: 'go¹' + 'by²'/'on' + 'vehicle' + 'on' + 'land' // 'Agent'
('higher animal')

Realized as ride.

/sail¹/: 'go¹' + 'by²'/'on' + 'vehicle' + 'on' + 'water' // 'Agent'
('higher animals')

Realized as sail (cf. 18), navigate.

They sailed/navigated around the world. ----(11)

The verb navigate is not a verb of motion in the phrase navigate a ship very skillfully, where it refers to the act of controlling the movement as in the example above.

/drive²/: 'go¹' + 'by²'/'at the same time as' + 'drive¹' // 'Agent' ('human')

Realized as drive (cf. 12).

/row²/: 'go¹' + 'by²'/'at the same time as' + 'row¹' // 'Agent' ('human')

Realized as row.

/cycle/: 'go¹' + 'by²'/'at the same time as' + 'pedal' // 'Agent' ('human')

Realized as cycle.

/ski²/: 'go¹' + 'on' + 'ski¹' // 'Agent' ('human')

Realized as ski.

/skate²/: 'go¹' + 'on' + 'skate¹' // 'Agent' ('human')

Realized as skate.

An expression like the man gallops (in relation to the horse gallops) has a certain complexity which will be discussed in 18 and 20.3.

It is apparent, however, that we have here a component of means, 'by²/on (a) galloping horse.' The same treatment will be given to the parallel uses of the verbs trot, canter and amble.

/amble³/: 'go¹' + 'by/on' + 'horse' + 'mode^{amble}' // 'Agent' ('human')

Realized as amble (cf. 10,11,18).

/trot³/: 'go¹' + 'by/on' + 'horse' + 'mode^{trot}' // 'Agent' ('human')

Realized as trot (cf. 10,11,18).

/canter²/: 'go¹' + 'by/on' + 'horse' + 'mode^{canter}' // 'Agent' ('human')

Realized as canter (cf. 11,18).

/gallop²/: 'go'¹ + 'by/on' + 'horse' + 'mode^{gallop}' // 'Agent'('human')

Realized as gallop (cf. 11,18)

15. Verbs of Motion with Components of Purpose and Result

A considerable number of verbs with components of purpose or result have been discussed in other section. The necessity of such components is seen from examples like the following:

He followed the car. ---(1)

He chased the car. ---(2)

They came there. ---(3)

They assembled there. ---(4)

He got out of the battlefield. ---(5)

He fled from the battlefield. ---(6)

He escaped from the battlefield. ---(7)

(2) differs from (1) in that, among other things, the latter implies that the movement is being made for the purpose of overtaking the car. Similarly, (4) differs from (3) in that the latter implies that they came there with the result that they were now together. (5), (6) and (7) can be contrasted with each other as 'unmarked,' 'marked as to purpose' (i.e. 'in order to be free (from danger, etc.)) and 'marked as to result' (i.e. 'so as to be free (from danger, etc.)), respectively.

We will set up 'in order to' and 'so as to' as relating elements for components of purpose and result, respectively. These elements relate to verbs of motion the components which denote the contents of the purpose or result. Certain verbs can be characterized as well by components of purpose as by components of result. Cf. dodge, which may be paraphrased as either 'move in order to avoid' or 'move so as to avoid.' It must be noted, however, that the occurrence of components of purpose is naturally limited to cases involving human or higher animal agents, while components

of result can occur either with animate or inanimate agents. Thus,

People gathered in the hall. --- (8)

Dust gathered on the shelf. --- (9)

In many cases, however, components of purpose or result are lost when the verbs having these components are applied to inanimate agents. Cf.

The clouds fled before the wind. --- (10)

Gas escaped from the tube. --- (11)

Notice that escape in (11) can safely be replaced by come out, while the substitution of come out for escape in he escaped from the room would make a great difference.

Finally, the element of purposelessness which is observed in such verbs as wander, roam, rove, will best be described by a negation and the component 'in order to.'

/chase/: 'go¹' + 'after' + 'in order to' + 'overtake' //'Agent'

Realized as chase.

/flee/: 'go¹' + 'away' + 'in order to' + 'free' //'Agent'

Realized as flee.

/escape/: 'go¹' + 'away' + 'so as to' + 'free' //'Agent'

Realized as escape.

/dodge/: 'go¹' + 'short distance' + 'momentaneous' + 'in order to'/'so as to' + 'avoid' //'Agent'('higher animals')

Realized as dodge.

/wander/: 'go¹' + 'this way and that' + 'durative' + 'in order to' + 'nothing' //'Agent'('animals,' 'vehicle')

Realized as wander, roam, rove.

He wandered/roamed/roved over sea and land.

Notice the necessity of the components of direction, on the one hand, and of purpose, on the other. Neither an act of walking back and

forth along the same straight course (however long it may continue) nor that of moving widely this way and that for certain specific military purposes will be referred to as wandering.

16. Verbs of Motion with Components of Space

Certain verbs refer to a movement as taking place in some particular kind of space. Cf.

It went/flew through the air. ---(1)

It went/*flew through the water. ---(2)

Only the first sentence allows of paraphrase by fly. The verb fly, in fact, is a typical verb in this category. It is not only applied to a bird's movement through the air, but also to a man flying by kite or plane, to a plane, bullet, missile, etc., in short, to anything going through the air irrespective of the mode or means of movement: cf., for example, a splinter of steel flew into his eyes.

In many cases, however, components of space are only a part of the components which are assigned to a verb of motion, and the examples of this sort have already been discussed in other section. The number of the components of space that we have to set up is apparently very small. Besides the component 'in air,' we need 'on water' and 'on land,' and finally 'in liquid' to account mainly for the uses of several verbs which denote a movement into liquid (cf. 4.3.1).

/fly/: 'go'¹ + 'in' + 'air'

Realized as fly.

17. Verbs of Motion with Components of Cause

17.0 The components of cause are widely distributed, and are found not only in the verbs of motion in the strict sense of the word, but also in the so-called 'mutative verbs' in general (i.e. verbs denoting changes of various sorts). Cf. such verbs as fell (as in fell a tree), open (as

in open the window), marry (as in marry the boy and the girl), increase (as in increase the size), waken, strengthen, whiten, worsen, and many other verbs with -en.

17.1 Theoretically, the components of cause can combine with any of the sememes discussed in the preceding sections that are realized as verbs of motion. This is reflected by the fact that we can denote a movement in the causative sense by making use of such verbs as cause, let, make, allow, etc. (which, although each having a certain component peculiar to itself, have the component of cause in common). Thus, smoke rises vs. make smoke rise, he goes vs. make him go, he follows vs. make him follow, he brings a book vs. make him bring a book, etc.

On the other hand, only some of all the possible combinations of the components of cause with sememes of motion are realized as single lexemes. For example, there are no causative verbs of motion corresponding to such non-causative verbs as approach, ascend, descend, climb, leave, chase, follow, quit, wander, etc. In those cases where we have both the non-causative and the causative verbs of motion corresponding to each other in meaning, they may or may not be identical in form. Examples of the former type are more common. Cf. such verbs as advance (e.g. the army advances vs. advance the army), drop (e.g. a pin drops vs. drop a pin), hasten (e.g. he hastens vs. hasten him), return, start, stop, sink, slide, roll, issue, assemble, etc. Examples of the latter type are few: raise (vs. rise) and send (vs. go). Fall, as the causative counterpart of fall, corresponds only to that part of the meaning of fall which lies outside of what we consider as uses of verbs of motion (cf. 0.0). Certain causative verbs of motion, however, have no single verbs of motion corresponding to them: cf. drive (away) (vs. go away).

17.2 The account in the foregoing section shows that from a theoretical

point of view we can conceive of three types of closely related expressions:

- (i) a verb of motion: e.g. go, move (vi.).
- (ii) the corresponding causative verb of motion: e.g. send, move (vt.).
- (iii) a causative verb + the verb of motion: e.g. cause to go, cause to move (vi.).

Notice, however, that the semological relations among the three types of expressions are not simple. If we represent the components of motion and of cause as 'M' and 'C,' respectively, then, it is not the case that we can represent the above as (i) 'M,' (ii) 'C' + 'M' and (iii) 'C' + 'M.' The following points must be noted:

- (1) 'C' in (ii) and 'C' in (iii) may be different.
- (2) 'M' in (i) and 'M' in (iii) are identical, but 'M' in (ii) may be componentially different from 'M' in (i) or (iii).

17.3.1 The first point was already touched upon when we noted that there are two components, 'cause¹' and 'cause²,' the former corresponding to what we call 'cause' and the latter to what we call 'reason' (cf. 1.6). It has been mentioned that 'cause¹' is generally lexicalized in a single causative verb of motion, while 'cause¹' and 'cause²' are neutralized and realized as a simple causative verb. Thus causative verbs of motion like advance, drop, withdraw, return, sink, duck, immerse, submerge, issue, assemble, gather, disperse, pass, cross, swerve, turn, revolve, hurry, hasten, rush, dash, march, bounce, bound, gallop, glide, slide, walk, jump, fly, etc. realize 'cause¹' and contrast with a simple causative verb like cause, which realizes either 'cause¹' or 'cause².' Thus compare:

*The approaching enemy advanced our army.

The approaching enemy caused our army to advance.

*A sense of shame withdrew my hand.

A sense of shame caused my hand to withdraw.

*The sight of the coming ball ducked him.

The sight of the coming ball caused him to duck.

*The common interests assembled many men.

The common interests caused many men to assemble.

*The urgency of the matter hurried him.

The urgency of the matter caused him to hurry.

*His sudden appearance jumped the horse.

His sudden appearance caused the horse to jump.

*The damage sank the ship.

The damage caused the ship to sink.

One apparent exception is the verb send. Cf.:

Some urgent business sent him away.

Some urgent business caused him to go away.

The verb send, unlike other causative verbs of motion, neutralizes and realizes 'cause¹' and 'cause²' and is in this respect similar to a simple causative verb like cause.

17.3.2 There are, moreover, a few causative verbs which nevertheless seem at first not to realize either 'cause¹' or 'cause².' Consider, for example, the meaning of the verb walk in the following sentence:

The man walked his dog in the park. ---(1)

It will immediately be apparent that the sentence cannot be paraphrased as 'the man caused his dog to walk in the park.' A closer paraphrase will rather be: 'the man took a walk in the park with his dog.'

Sentence (1) can profitably be compared with one like the following:

The man jumped his horse. ---(2)

In this case, it will certainly be possible to paraphrase the sentence as:

'the man caused the horse to jump.' Cf. also: gallop a horse.

How should we account for these different uses? One possible way would be to consider that in the case of a verb like walk, no causative component is involved and that the verb walk realizes something like a component of accompaniment 'with' (i.e. the man walked with his dog). Another possibility is to consider that we have a component of cause in any case but that the degree of the imperativeness of causation is weak here because of the particular extralinguistic circumstances relevant to the expression. Thus in (1) the notion of causation is hardly felt because we know, as an extralinguistic fact that it does not require much impulsion to let a dog walk. On the other hand, (3) has a stronger implication of causation because we know that it requires skill to make a horse jump. We would like, for the moment, to opt for this second solution. This will also account for a more or less clear notion of compulsion that accompanies an expression like march the prisoners. We know what 'prisoners' are and what it is to 'march' and will readily understand that it requires constant watchfulness to let them march.

On the other hand, it must be noted that the first solution is not entirely ad hoc. In fact, the use of the verb walk discussed above, in a way, represents a possible approximation of the notion of causation to that of accompaniment; it is a border-line case between the causative verbs and non-causative (yet 'transitive') verbs like accompany, follow and precede.

17.3.3 There is also something peculiar about the behavior of the verb drop. Consider a sentence like the man dropped a stone. The sentence is really ambiguous, in that it may mean that he dropped the stone intentionally on something or that the stone simply slipped out of his hand, for example, and fell. (Cf. he dropped the bombs on enemy targets and he acci-

dentally dropped a cup which he was carrying.) The first meaning may vacillate between 'cause'¹ and 'let.' 'Let' in this case would imply that the object dropped is conceived of as having a propensity to drop, while this implication is not found for 'cause'¹. We would not think, however, that this distinction is linguistically significant. On the other hand, it seems difficult to apply a paraphrase either by 'cause'¹ or by 'let' because what is represented is an unintentional act. It will rather accord to our intuition if we consider that the grammatical subject in such a sentence is not an 'agent' but simply a kind of 'locative' indicating the place at which the movement begins. This interpretation implies that a sentence like he (accidentally) dropped a cup is semologically equivalent to a cup (accidentally) dropped from (some part of) him. Notice that drop is not the only verb that is used in this way. There are several verbs, especially those referring to movements of fluids, that are used in the same manner. Cf.

The pipe issues gas. (= Gas issues from the pipe.)

The wound oozes (with) blood. (= Blood oozes from the wound.)

17.4.1 The second point mentioned in 17.2 is that when one and the same verb of motion has causative (i.e. C + M --- (i)) as well as non-causative (i.e. M --- (ii)) uses, the componential representation for the latter does not necessarily serve as the representation of the motional component of the former (i.e. M in (ii) $\neq$ M in (i)). Cf. sentences like the following:

They pushed the chair away from the table.

They pulled the boat toward the shore.

In their causative interpretations, the sentences can be paraphrased as 'they caused the chair to go...by pushing' and 'they cause the boat to come...by pulling,' respectively where 'by pushing' and 'by pulling' semologically modify 'cause.' Thus schematically, 'cause-by-pushing something to go' and

'cause-by-pulling something to come.' Compare these paraphrases with the paraphrases of the same sentences in their non-causative interpretations. The latter can schematically be represented as 'go-at-the-same-time-as-pushing' and 'go-at-the-same-time-as-pulling.' It will be noticed that in the causative uses, the motional components are deprived of the features of accompanying circumstances (i.e. 'at-the-same-time-as-pushing' and 'at-the-same-time-as-pulling') and what remain are rather abstract components like 'go' and 'come.'

Similar things happen to the causative uses of verbs with features of means. Thus in the causative interpretation of the sentence he drove her home, the feature of means, 'by car,' is, strictly speaking, related to the component 'cause' rather than to the component of motion: i.e. 'cause-by-using-the-car her to go home' rather than 'cause her to go-home-by-car.' It seems that verbs with features other than accompanying circumstances or means do not undergo this type of changes in their semological structure. Thus the features of direction, for example, remain unaffected; in either the army advanced or the commander advanced the army, the feature of direction, 'forward,' is related to the army's movement, and in no way to the commander's act of initiation.

17.4.2 Another thing to be noted about the motional component of causative verbs of motion is that there is sometimes a change in the semological status of the object that is caused to move. Cf.:

The man ducked into the water. ---(1)
Ag.

He ducked the man into the water. ---(2)
Er.

The man's ducking, as represented in (1), is a voluntary act; hence 'the man' is an agent. In (2), however, the man did not, properly speaking, duck, but was ducked; hence 'the man' is an ergatum. Compare (2) with the

sentence below, in which there is no such change in the semological status of 'the man:'

He caused the man to duck into the water. ---(3)
Ag.

Thus, theoretically, (1), (2) and (3) are represented as 'Agent + Motion,' 'Agent + Cause¹ + Ergatum + Motion' and 'Agent₁ + Cause¹/Cause² + Agent₂ + Motion,' respectively. Cf. also:

The man moved. ---(4)
Ag. or Er.

He moved the man. ---(5)
Er.

He caused the man to move. ---(6)
Ag. or Er.

Notice that in (5) 'the man' is ergatum irrespective of the semological status of 'the man' in non-causative uses, while 'the man' in (6) is agent or ergatum depending on the status of 'the man' in non-causative uses.

There are, however, some verbs with which no such change in the semological status takes place:

The prisoners marched. ---(7)
Ag.

He marched the prisoners. ---(8)
Ag.

He caused the prisoners to march. ---(9)
Ag.

There are verbs like walk, jump and gallop that behave in the same way.

It will easily be seen that in the case of the verbs of the last mentioned type, the semological status of the object that is caused to move cannot but be 'agent,' because the components of mode that these verbs have can only be associated with voluntary motions. This, however, is not necessarily the case with all verbs. The verb duck, for example, has nothing in its semological structure that necessitates an ergatic inter-

pretation for the object that is caused to move; that is, 'the man' in duck the man might just as well be an agent --- thus paralleling the uses of verbs like march and walk discussed above. Or again, there is theoretically nothing that hinders the verb move from taking either an agent or an ergatum rather than always taking an ergatum. We must, therefore, record these uses as systematically significant features of linguistic structure. This will be done by positing two sememes, both realizing one and the same hypersememe but differing from each other in semotactic properties; one of them will be realized as a non-causative verb of motion, while the other will serve as a component for a causative verb of motion. Thus, for example, we have 'duck¹' taking an agent and 'duck²' taking an ergatum; 'duck¹' is realized as the non-causative verb of motion duck, while 'duck²' and 'cause¹' represent the causative uses of the verb duck in portmanteau realization. A verb like march, on the other hand, has the same motional component in the causative uses as in the non-causative uses; hence there is no necessity of positing two sememes with different tactical properties. Notice that the verb rush behaves both as duck (as in (11) below) and as march (as in (12) below):

The man rushed to the hospital/^around the sights. --- (10)
Ag.

He rushed the man to the hospital. --- (11)
Er.

He rushed the man around the sights. --- (12)
Ag.

He caused the man to rush to the hospital/around the sights. -- (13)
Ag.

As is clear from some of the examples above, the verb cause (realizing neutralizing 'cause' and S/cause²/) puts no constraint on the semological status of the object to be caused to move.

17.5 The foregoing discussion shows that from a semological point of

view, there are several structural types of causative counterparts of verbs of motion.

First, there are causative verbs whose motional components are the same as those in non-causative uses. Representing the feature of movement as 'Go' and the subordinate element of various kinds as 'x,' we have the following types:

(1) Agent₁ + Cause¹ + Agent₂ + 'Go + x': e.g. assemble, walk, jump, leap, march, gallop, trot, canter, amble, etc.

(2a) Agent + Cause¹ + Ergatum + 'Go + x': e.g. sink, bounce, etc.

(3) Agent₁ + Cause¹ + Agent/Ergatum + 'Go + x': e.g. advance, withdraw, gather, speed, etc.

Second, we have causative verbs whose motional components are tactically different from those in non-causative uses. The tactical ranges in the case of non-causative uses are 'agent' in (2b) and either 'agent' or 'ergatum' in (2c), but in the case of causative uses, the tactical ranges are 'ergatum' only.

(2b) Agent + Cause¹ + Ergatum + 'Go + x': e.g. duck, submerge, rush, etc.

(2c) Agent + Cause¹ + Ergatum + 'Go + x': e.g. move, stop, return, raise, lift, drop, pass, turn, dash, roll, etc.

Third, there are causative verbs whose motional components are compositionally different from those in non-causative uses, in that the subordinate element 'x,' which originally modifies the feature of movement, is now related rather to the feature of cause.

(4) Agent₁ + 'Cause¹ + x' + Agent₂ + Go: e.g. drive (away), lead, goad, usher, etc.

(5) Agent + 'Cause¹ + x' + Ergatum + Go: e.g. drive, sail, fly, row, push, pull, drag, tow, etc.

Fourthly, there are a few verbs which take either 'cause¹' or 'cause²'.

- (6) Agent₁ + Cause¹/Cause² + Agent₂ + 'Go + x': e.g. send and also verbal phrases containing causative verbs like cause and make.

Notice that some verbs are polysemous: e.g. drop (cf. the discussion above), rush (cf. rush the injured man to the hospital, rush a group of visitors around the sights), drive (cf. drive a lady home, drive the enemy away).

18. Verbs of Motion with Features of Agency

A verb of motion refers, as a principle, to a movement of a concrete object. Many verbs, however, can only be applied to certain particular categories of concrete objects and these verbs have been discussed in respective sections to which their principal components belong. The number of categories of concrete objects that are necessary for an account of the English verbs of motion is apparently very small. Chief among them are: 'human' (sometimes including 'higher animals'), 'animals,' 'vehicle,' 'fluid,' 'liquid,' etc. A very few verbs require such special kinds of agents as 'pointed things,' etc.

In this section, we will discuss a few verbs with which the principal features are those of agency. Cf.:

A horse gallops. --- (1a)

The man gallops. --- (1b)

A horse trots. --- (2a)

The man trots. --- (2b)

A horse canters. --- (3a)

The man canters. --- (3b)

A horse ambles. --- (4a)

The man ambles. --- (4b)

Notice that the sentences (1b) and (3b) imply (unless a conscious metaphor

is intended) that the man is on horseback, while (2b) and (4b) can mean either that he is on horseback or on foot. To account for this, we will distinguish among three types of uses here.

(a) Uses involving the feature of agency 'horse': 1a, 2a, 3a, 4a.

(b) Uses involving the component of means 'horseback': 1b, 2b, 3b, 4b.

(c) Uses involving neither: 2b, 4b.

In (a), (1a), (2a), (3a) and (4a) are distinguished by further adding components of mode, specifying the peculiar motion of the feet of the horse (cf. 11.3). This will also serve to distinguish among (1b), (2b), (3b) and (4b). Finally, the uses in (c) are analyzed as equivalent to 'walk' plus a certain component of mode ('in short steps') or manner ('leisurely').

It might be suspected that apart from (c), the uses in (a) and (b) might be correlated. In fact, we have other examples of similar alternations:

The ship sails. --- (5a)

The man sails in a ship. --- (5b)

The plane flies. --- (6a)

The man flies by plane. --- (6b)

It seems that we can say the following as a general rule: 'A verb of motion which denotes a movement of a particular type of vehicle can also be applied to a passenger being carried by that vehicle.' This statement implies that the uses marked as 'b' in the above are derivable from those marked as 'a,' but not vice versa. Cf.

The man drives in his car. --- (7a)

*His car drives. --- (7b)

The man rode across the field. --- (8a)

*A horse/car rode across the field. --- (8b)

We have already discussed the verb fly and concluded that it should be

assigned a component of space only. Since this very well accounts for
 a use like (6), we have no need of giving a feature of agency for it.

On the other hand, sail must have a specification of the feature of agency, because all movement on the surface of water are not necessarily referred to by sail. Sail as in (5b) belongs to the section on components of means.

There still remain two items to be discussed in this section. One of them, and an important one, is the verb flow. Semologically, the verb is nearly equivalent to move or go¹, only with its application restricted to fluid. The other one is the verb blow, which has an analogous structure.

Cf.:

Water flows. --- (9)

The river flows. --- (10)

Air blows (into the room when the fan is on). --- (11)

The wind blows. --- (12)

Notice that since wind is by definition a movement of the air, sentence (12) is semologically a tautology.

/sail²/: 'go¹' + 'on' + 'water' // 'ship'

Realized as sail (cf. 14).

/flow/: 'go¹' // 'fluid'

Realized as flow, run (cf. 11.3).

A river flows/runs through the plain.

Tears flowed/ran down from her eyes.

/blow/: 'go¹' // 'air'

Realized as blow.

For gallop, trot, canter, amble, see 11, 14.

(3) excludes (b).

11. Except probably in such a marginal case like an oculist in an eye-doctor (cf. Harris: 1954:156). In the present discussion, we will leave out of consideration the problem of style.

12. For exceptional cases, see Part III.

13. Cf. Nida (1964)

14. It must be noted that the use of follow we are considering here is S/follow²/ (cf. 11 of the second chapter) and not S/follow³/ cf. 4 of the second chapter). Follow is synonymous with go after in so far as it realizes S/follow²/.

15. Without is one item which can be defined as 'not' + 'with,', since the contrast between with ('having') and without ('not having') is apparently always contradictory.

16. A fuller account of the definition of 'field' in terms of stratificational grammar is given in the present writer's paper (forthcoming) in the Proceedings of the Xth International Congress of Linguists.

Chapter 3: Descriptive Problems

19.0 In the preceding sections, we have defined the meanings of the English verbs of motion in terms of 'distinctive' features: components of meaning and features of tactical compatibility. It will be seen from the analysis into components made so far that there is a general pattern in the semological structure of the verbs of motion. This pattern is made up of two parts: the principal part consists of the component indicating movement in the most general sense (i.e. 'go¹') and the subordinate part consists of certain components specifying what are distinctive about the movement. Thus: 'Go¹' + Components specifying the distinctive features of the movement. The subordinate part may be null, as in certain uses of go and move. Apart from those verbs involving components of cause and aspect, which require a special treatment and will be discussed later in 19.5, we can in the main distinguish among three types of the subordinate part, according to their structural differences.

- I. 'Go¹'
- II. 'Go¹' + 'Adverbial Element'
- IIIa. 'Go¹' + 'Prepositional Element'
- IIIb. 'Go¹' + 'Prepositional Element' + 'Nominal Element'
- IV. 'Go¹' + 'Conjunctive Element' + 'Verbal Element'

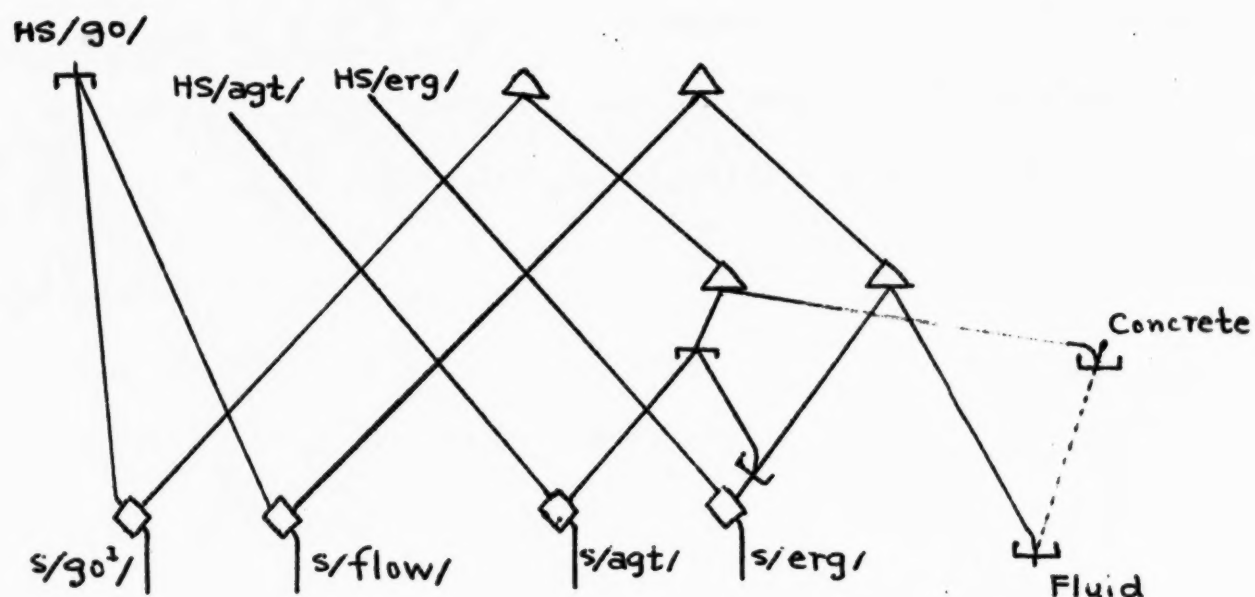
The classification of the distinctive features in the preceding sections is based on semantic criteria, i.e. in terms of what the features in question refer to. They are now rearranged in the scheme above as follows:

- I. 'Go¹'

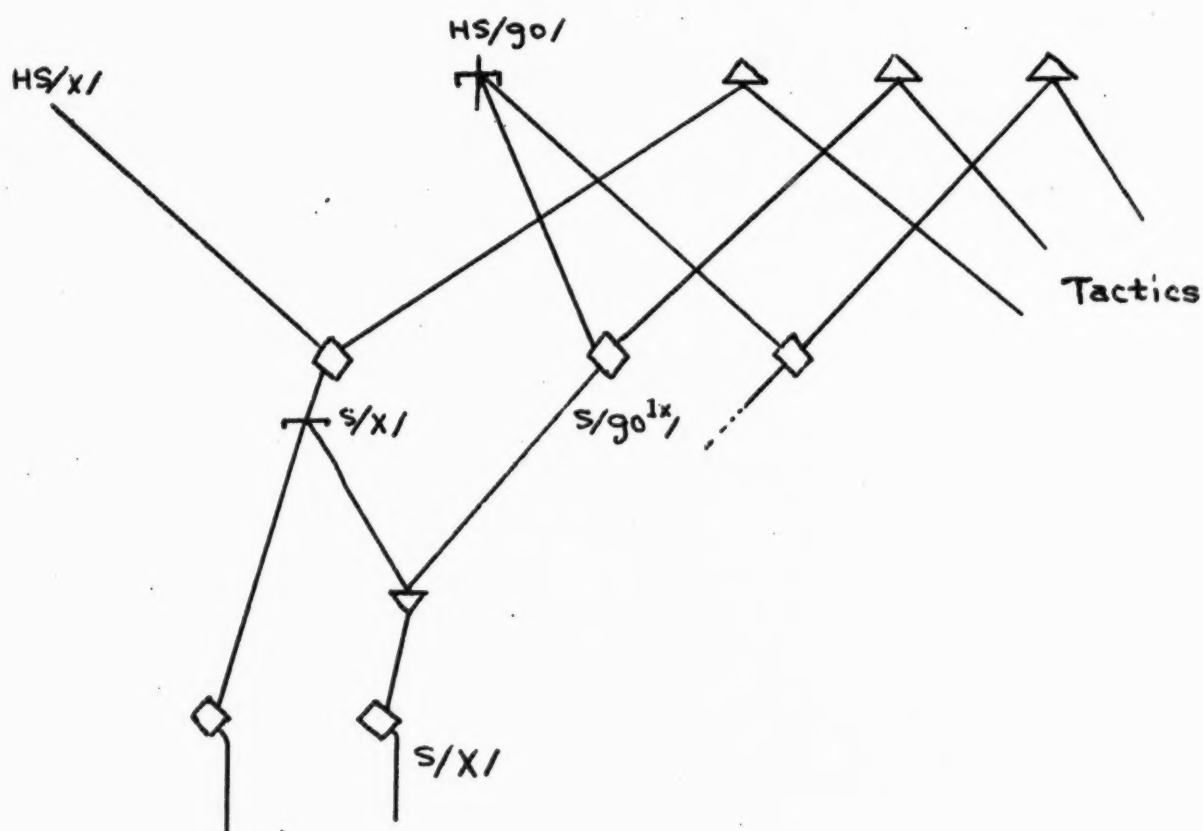
II. 'Go¹' + 'Adverbial Element'Course: e.g. 'turn' = 'go¹' + 'non-straight'Speed: e.g. 'hurry' = 'go¹' + 'hurried'Impetus: e.g. 'dash' = 'go¹' + 'violent'Distance: e.g. 'travel' = 'go¹' + 'far' + 'in order to' + 'visit'Manner: e.g. 'glide' = 'go¹' + 'smooth'IIIa. 'go¹' + 'Prepositional Element'Direction: e.g. 'go²' = 'go¹' + 'to' + 'non-R'Passage: e.g. 'cross' = 'go¹' + 'across'Relative Position: e.g. 'follow¹' = 'go¹' + 'after'IIIb. 'Go¹' + 'Prepositional Element' + 'Nominal Element'Direction: e.g. 'rise' = 'go¹' + 'toward' + 'up'Means: e.g. 'ride' = 'go¹' + 'by²'/'on' + 'vehicle' + 'on' + 'land'Space: e.g. 'fly' = 'go¹' + 'in' + 'air'IV. 'Go¹' + 'Conjunctive Element' + 'Verbal Element'Mode: e.g. 'walk' = 'go¹' + 'at the same time as'/'by²' + 'step'Accompanying Circumstances: e.g. 'carry' = 'go¹' + 'at the
same time as' + 'have (with one)'Purpose: e.g. 'chase' = 'go¹' + 'after' + 'in order to'
+ 'overtake'Result: e.g. 'assemble' = 'go¹' + 'to' + 'R' + 'so
as to' + 'together'

19.1 In the first structural pattern, the sememe realizes no other hypersememe than HS/go/ alone. Because of the difference in tactical range, however, we actually have several sememes each of which is a realization of HS/go/ alone. As a typical case, we represent below

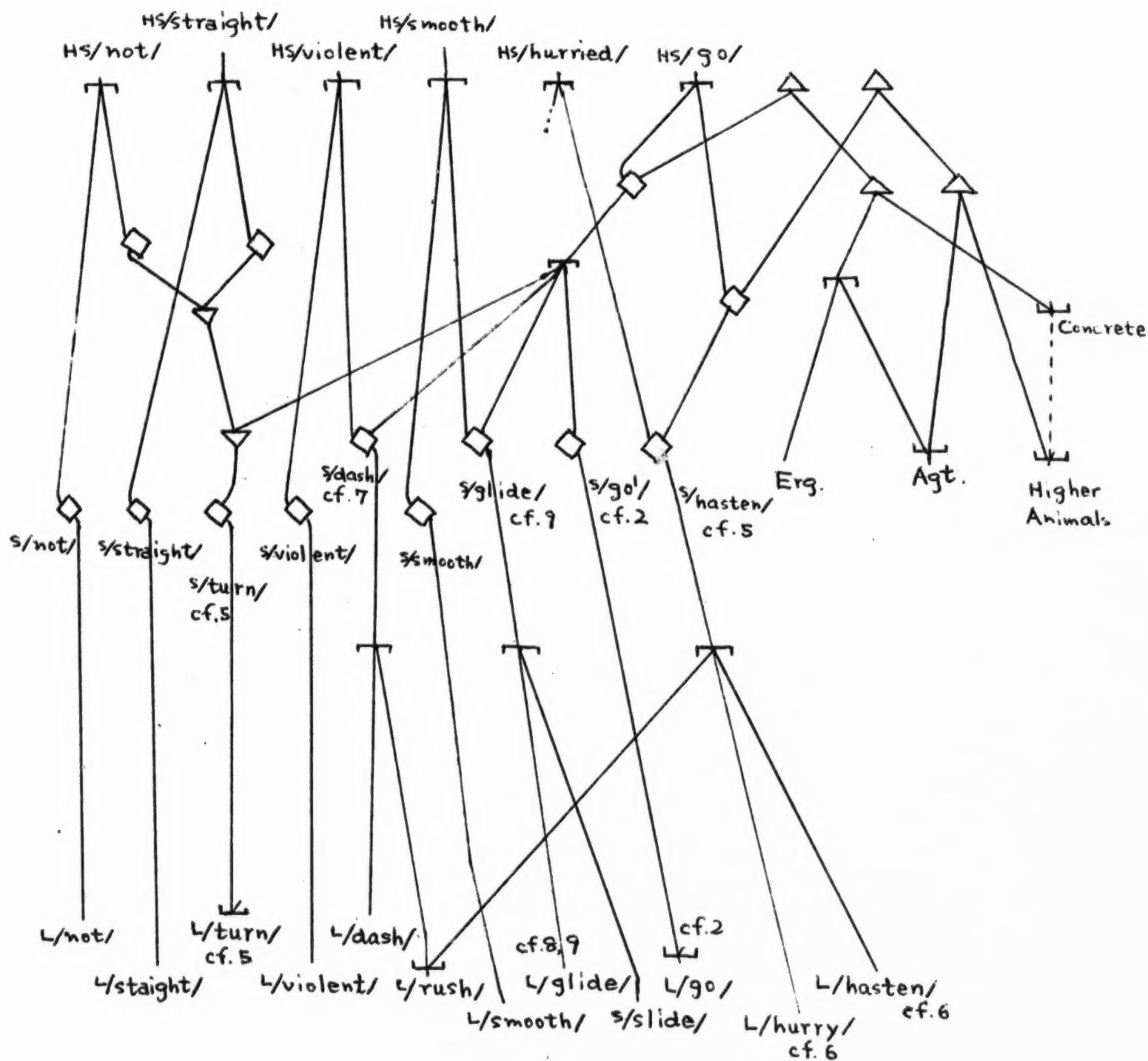
S/go¹/ which has 'concrete' as its tactical range and S/flow/ whose tactical range is 'fluid'. There are other sememes with identical realizational structure, but with different tactical ranges, which, however, may not be realized as single lexemes.



19.2 The second structural pattern consists of the principal component 'go¹' and a certain 'adverbial element'. The general pattern of description will be the following:



The hypersememe HS/go/ is realized as several sememes with different tactical ranges. The hypersememe HS/x/ is realized as the sememe S/x/, which is either incorporated into S/X/ or is further to be realized as an independent lexeme L/x/; in either case its tactical range remains the same. The sememe S/X/ (= 'go' + 'x') is assigned to the same branch as S/go¹x/ that has the same tactics as S/X/, and is defined as the portmanteau realization of HS/go/ and S/x/. Thus, for example:

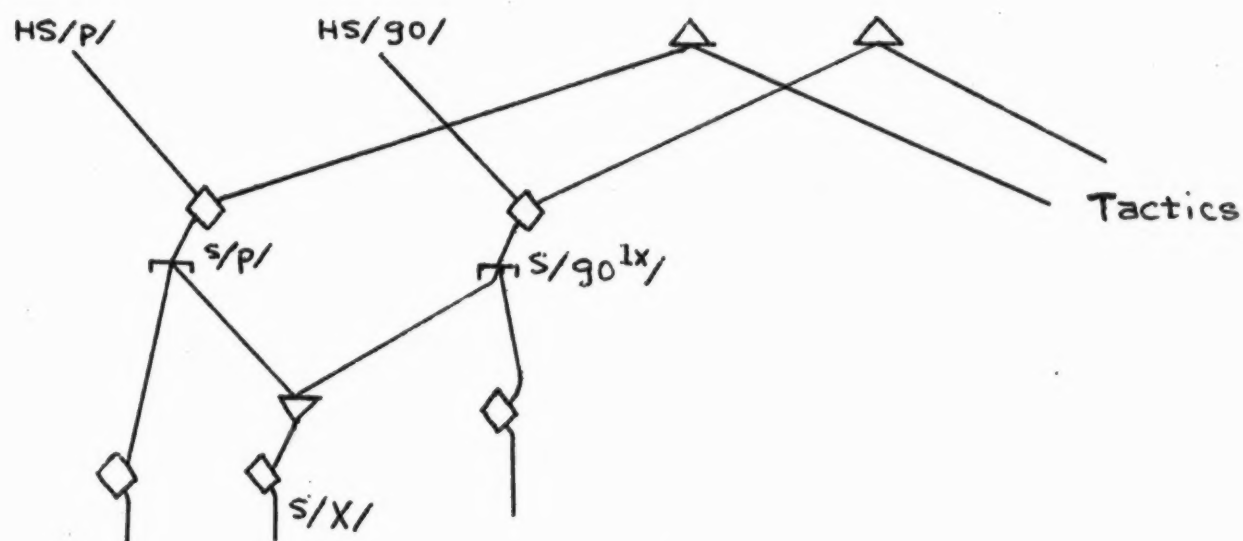


Notice cases of diversification (i.e. synonymy) in dash, glide and hasten, and of neutralization (i.e. polysemy) in start, turn, rush, glide and go. For a detailed discussion refer to the sections noted above for each element. Besides functioning as components of some sememes of verbs of motion, elements like S/straight/, S/violent/, S/smooth/ and S/hurried/ are also realized as single lexemes.

19.3 The third structural pattern consists of 'go¹' plus a 'prepositional element' with or without a 'nominal element'. Two subtypes are distinguished depending on whether or not the nominal element is incorporated in 'go¹'.

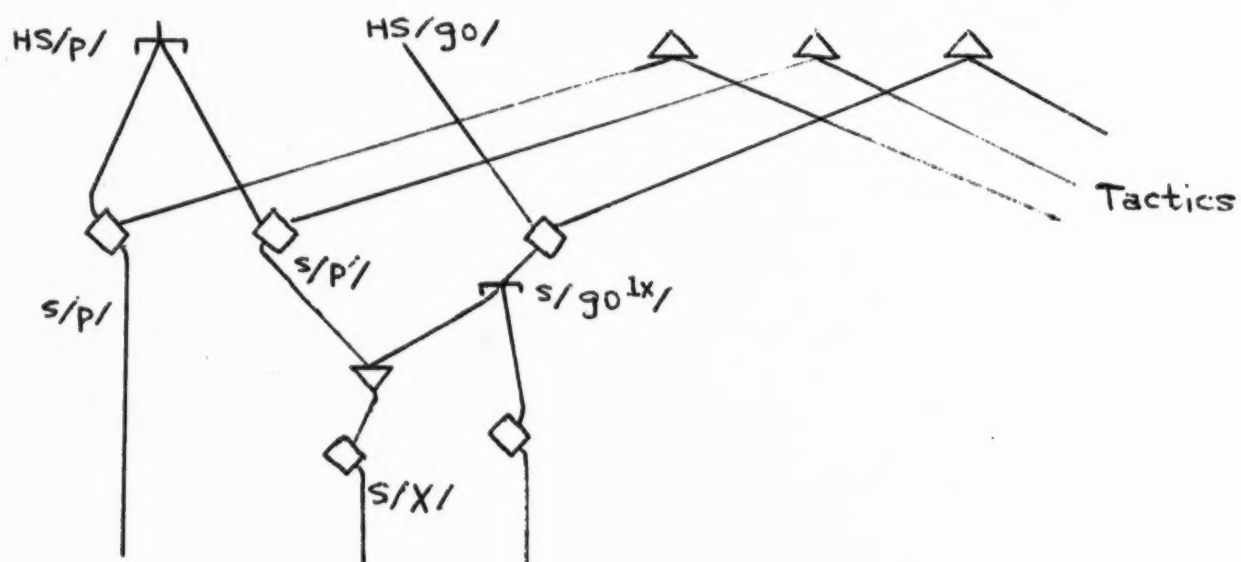
19.3.1 In the first subtype, only the prepositional element is incorporated; the prepositional element, however, is related to a certain set of nominal elements that constitute its tactical range. The prepositional element, besides being incorporated into 'go¹', is usually realized as an independent sememe as well. Two further subtypes are then distinguished depending on whether or not the tactical range of the prepositional element is the same when it is incorporated as when it is realized as an independent sememe.

19.3.1.1 If the tactical range of the prepositional element is the same in two cases, the representation will be the following:



The hypersememe HS/go/ has as one of its realizations S/go^{1x}/ with a certain tactical range. HS/p/ is realized as S/p/, which is either incorporated into S/go^{1x}/ or is further to be realized as an independent lexeme. S/X/ is defined as the portmanteau realization of HS/go/ and HS/p/ and is assigned to the same branch as S/go^{1x}/ whose tactical range is the same as that of S/X/. An example in point is S/pass/ (= 'go¹' + 'by¹'). Thus, replace 'X' and 'p' with 'pass' in the above diagram with 'pass' and 'by¹', respectively.

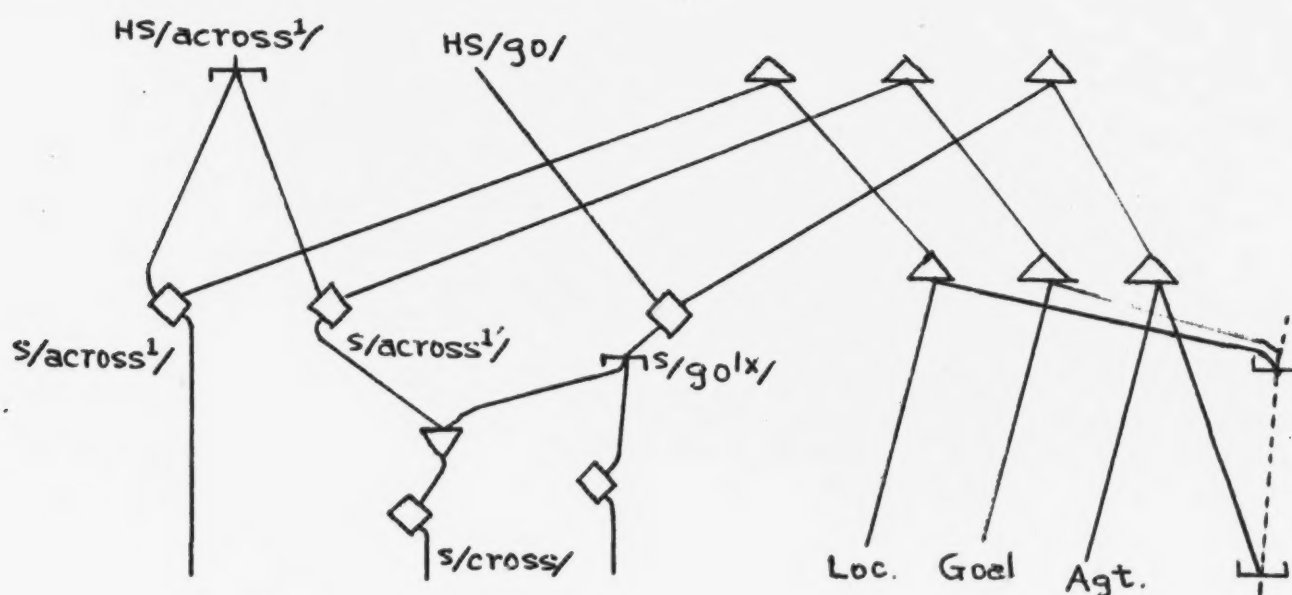
19.3.1.2 If the tactical range of the prepositional element is different when it is incorporated from when it is realized as an independent sememe, the representation will be the following:



HS/p/ is realized as either S/p/ or S/p'/. S/p/ is realized as an independent prepositional lexeme L/p/, while S/p'/ is incorporated into S/go^{1x}/ (which is a realization of HS/go/), producing S/X/. S/p/ and S/p'/ are distinguished here, because they have different tactical properties from each other.

The difference in tactical properties between S/p/ and S/p'/'

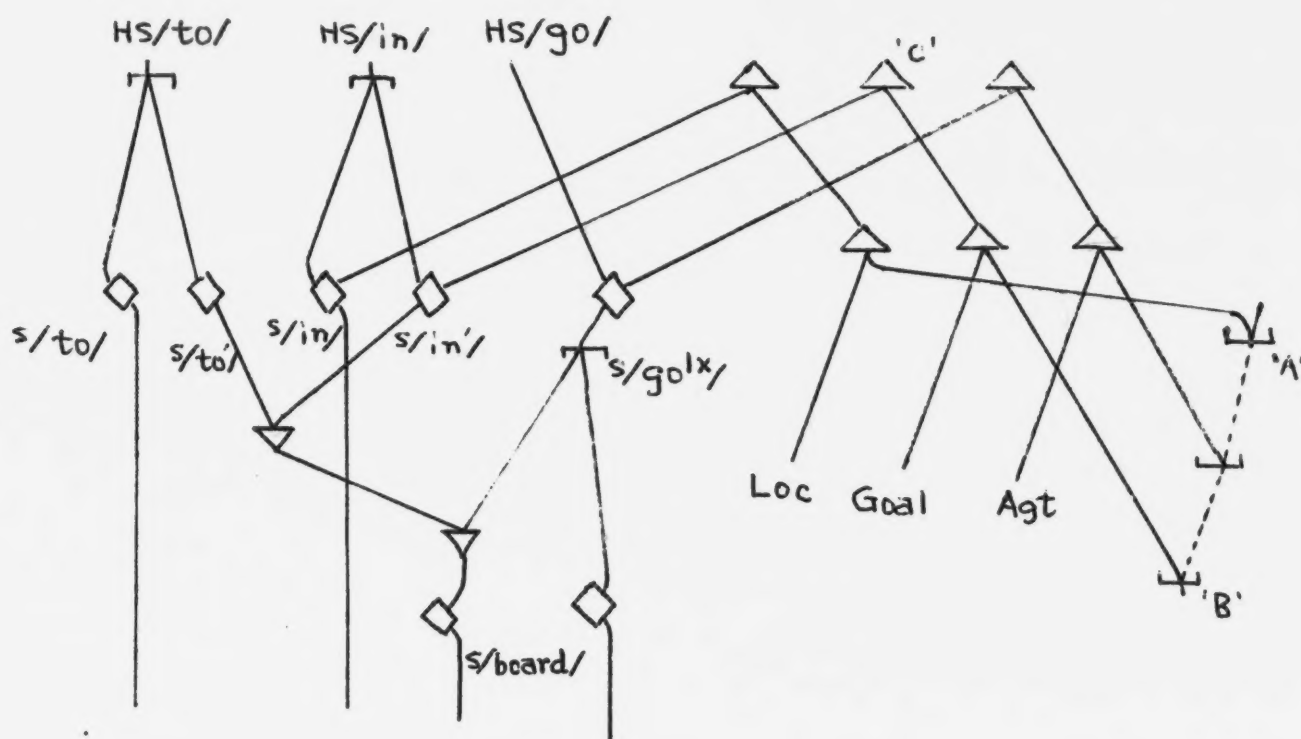
may either be functional or componential. An example of the former sort is S/cross/. Here we have S/across¹/ which is to be realized as an independent lexeme L/across/ and S/across¹/ which is incorporated and produces S/cross/. While S/across¹/ and S/across¹/ have the same tactical range, they are different in that the former takes a nominal element as a locative and the latter a nominal element as a goal. (Cf. go across the stream (*the stream is gone across) --- cross the stream (the stream is crossed).) Thus,



Another example of this type, S/follow¹/, has already been discussed in 13.3.7 of Pt. I. Cf. further such sememes as S/cross²/ (= 'go¹' + 'across²'), S/precede/ (= 'go¹' + 'before'), S/accompany/ (= 'go¹' + 'with'), S/follow³/ (= 'go¹' + 'along').

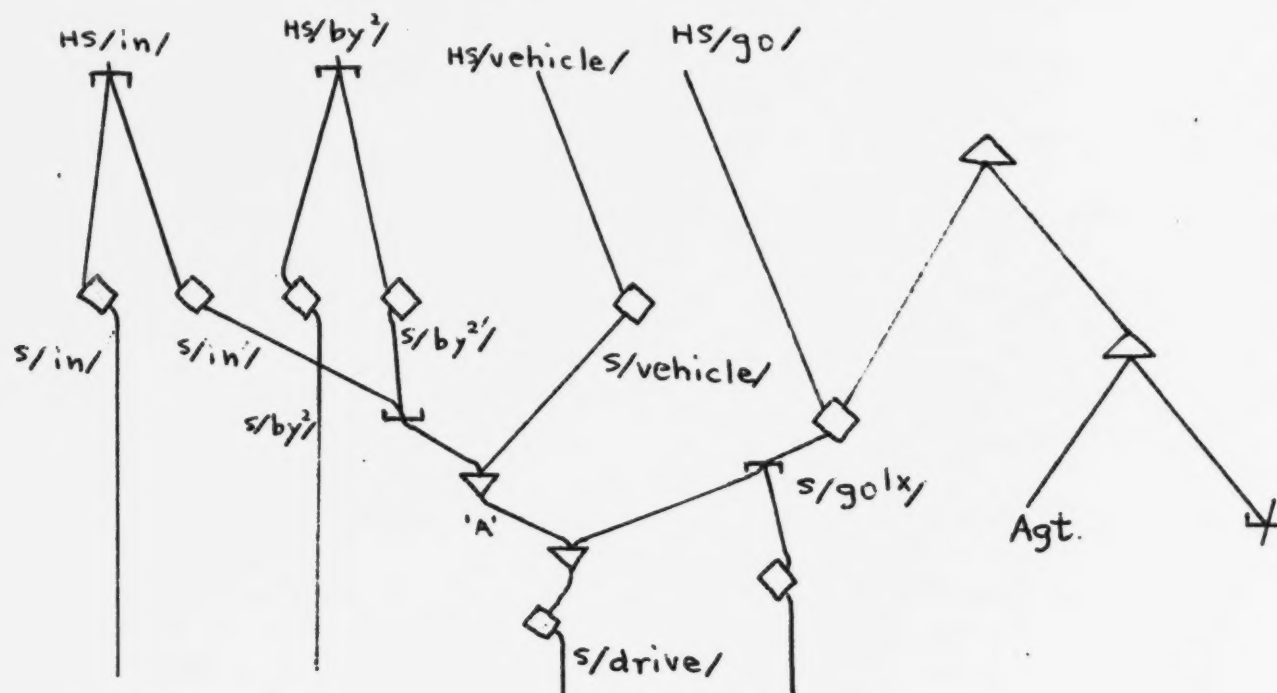
The tactical difference may lie not only in the kind of relating elements that S/p/ and S/p'/ take but also in the range of nominal elements which can combine with them. S/board/ (= 'go¹' + 'to' + 'in') will serve as an example. S/in'/, which is incorporated into S/board/, behaves differently from S/in/, which is to be realized as L/in/.

Cf. board the bus (the bus is boarded) --- get into the bus (*the bus is gotten into), *board a box --- get into a box. Thus, S/in'/ takes as goal (cf. node 'C') a nominal element which has a feature 'vehicle' (cf. node 'B'), while S/in/ takes a much wider range of nominal elements (cf. node 'A') as locative.



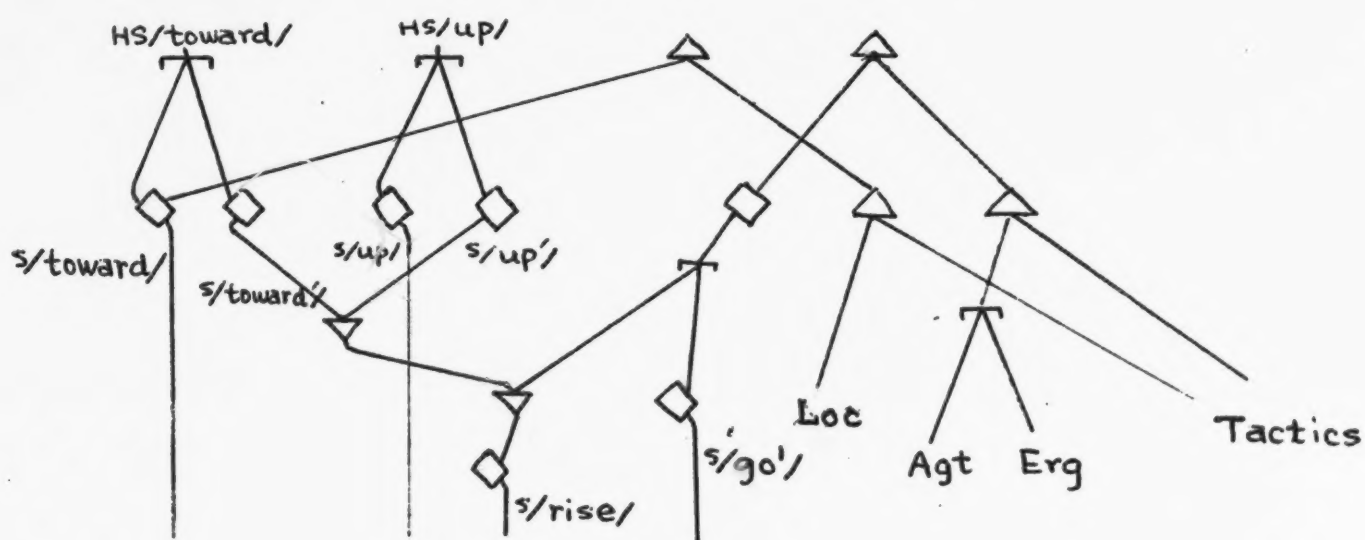
19.3.2. Next we have cases in which not only the prepositional, but also the nominal element is incorporated. S/drive/ (= 'go¹' + 'in'/'by²' + 'car') is an example in point. Notice that again the tactical range of the prepositional element, S/in'/ or S/by²/, is more restricted than that of S/in/ or S/by²/, which is to be realized as L/in/ or L/by/. The upward 'both-and' node (marked 'A') shows that the combination of the prepositional and the nominal elements is to be incorporated as a whole. Node 'B' serves to represent the vagueness in the semological structure; S/drive/ can be either 'go by car' or 'go in a car'. Notice that either S/by²/ or S/in'/ can only combine

with S/vehicle/. (We would expect that there are a number of lexemes that partially realize S/vehicle/.)



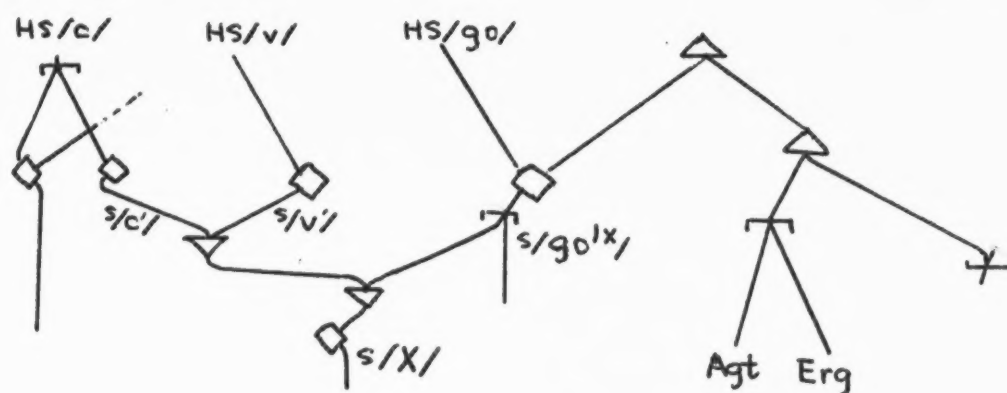
Other examples of sememes of this kind are: S/fly/ (= 'go¹' + 'in' + 'air'), S/soar/ (= 'go¹' + 'to' + 'up' + 'in' + 'air'), S/ride/ (= 'go¹' + 'on'/'by²' + 'vehicle' + 'on' + 'land') and a few sememes involving the sememic combination 'in liquid' (e.g. S/sink²/, S/dive¹/, S/submerge/).

In a slightly different, but essentially the same way, a sememe like S/rise/ also belongs to this type. The nominal element in this case is a locational component S/up/.

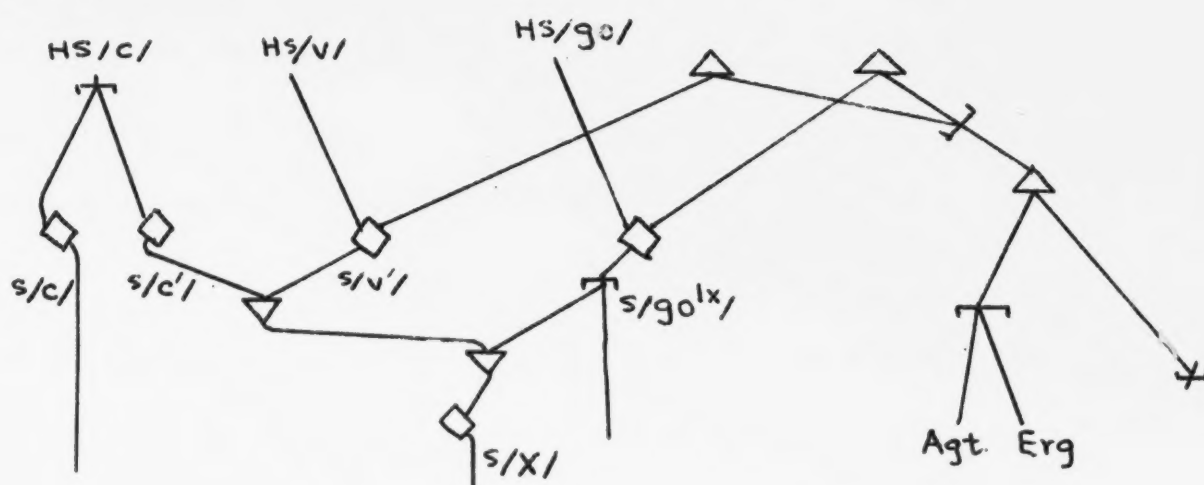


A sememe like S/ascend/ (= 'go'¹ + 'toward' + 'up' + 'on') is a complex one involving this type and also the type discussed in 18.2.1.1.

19.4 The fourth structural pattern consists of the component 'go'¹, plus a combination of certain conjunctive and a verbal element. The number of the sememes that can serve as conjunctive elements here is very small: 'at the same time as,' 'in order to,' 'so as to' and 'by' (as in 'by -ing') will probably be all that are necessary for an account of the semological structure of English verbs of motion. All these conjunctive elements are realized as lexemes, often involving diversification. For example, 'at the same time as' is realized as -ing (cf. he walked around muttering), while (cf. he muttered while he walked), as (cf. he muttered as he walked around), etc. 'In order to' is realized as in order to, for the purpose of, that...(may), to, etc., and 'so as to' as so as to, so that, to, etc. These conjunctive elements have the function of introducing verbal elements and relating them to the component 'go'¹ in the principal part. The verbal elements are largely of two types: some of them are sememes that are realized as lexemes, while others occur only as components of other sememes without themselves being realized as single lexemes. Many of the components of mode are of the latter type. Thus, for example, there is no single verb lexeme denoting a particular motion of the limbs of a swimming person (i.e. 'mode^{swim}'). Sememes of this type can schematically be represented as follows:



S/X/ is a sememe of the third structural type we are now considering, i.e. one whose components are: 'go¹' + 'conjunctive element' + 'verbal element'. The conjunctive element which serves as a component of S/X/ is designated as S/c'/ and is distinguished from S/c/, which is to be realized as a single independent lexeme. The verbal element that serves as a component of S/X/ is S/v'/. S/v'/ combines with S/c'/ and the whole combination is incorporated into S/X/. S/v'/ has no lexemic realization. Since it only occurs as component of another sememe, we can assume that it has no tactics, either. Alternatively, however, we can assume that it has a tactics which is identical with that of S/go¹x/ by which the tactics of S/X/ is defined. Then the diagram given above will be modified as follows:

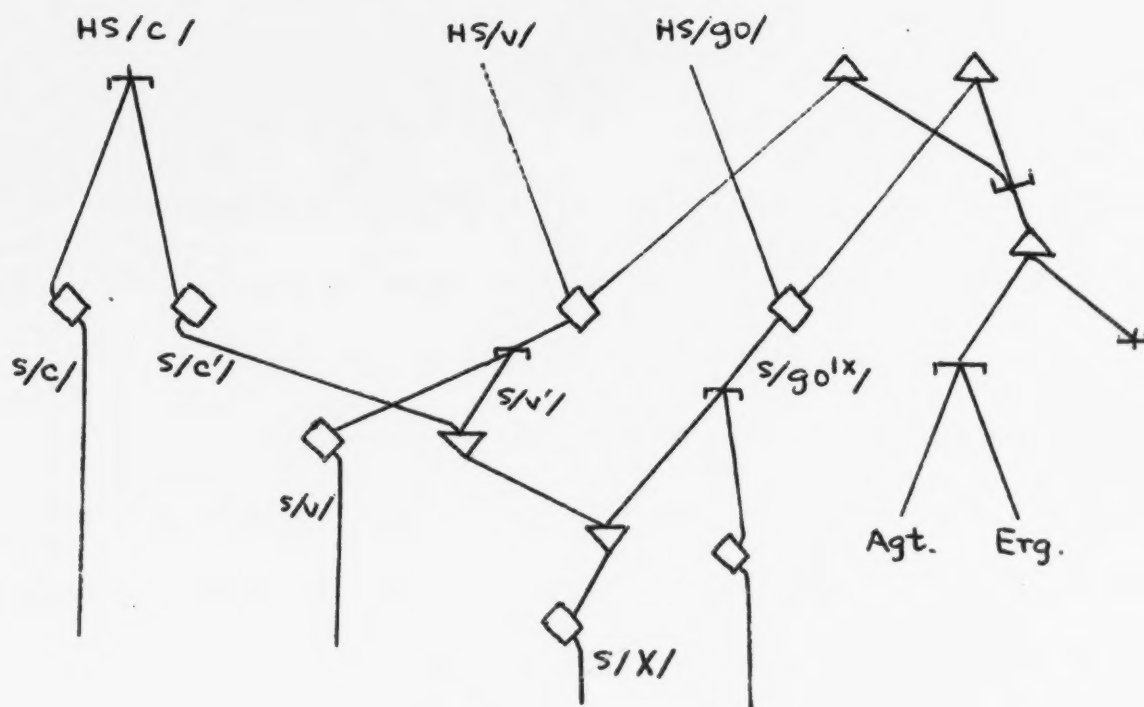


In the following account, we will prefer this alternative, since it will be reasonable to assume that we have an agent for a motion of any type. In case the verbal element as component of S/X/ is a sememe that can also be realized as a single lexeme, we will designate it as S/v/, distinguishing it from S/v'/, which occurs only as a component. Notice that S/v/ and S/v'/ are the same in realizational structure (because they are the results of a hypersememic diversification), but

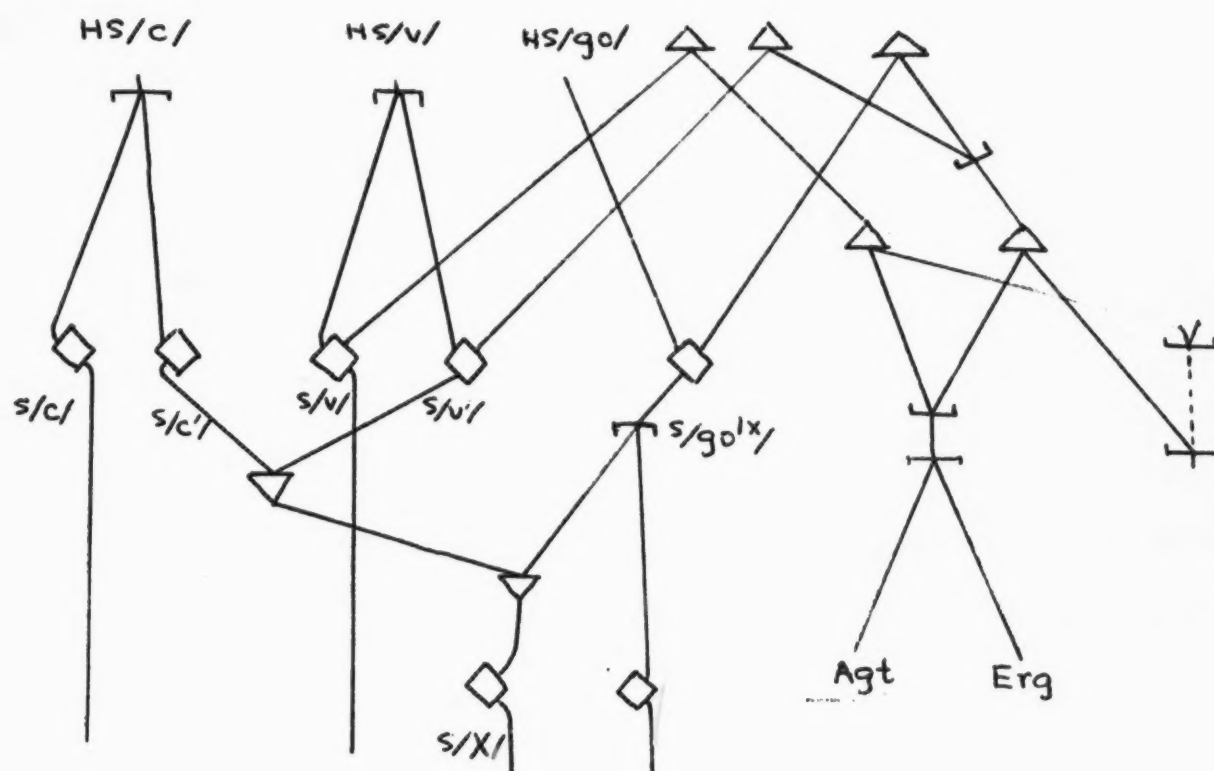
that there is no warrant that they have identical tactic properties. Consider, for example, the verb tow (cf. 13.3.7 of Pt.I). Semologically, 'tow' can be analyzed as 'go¹' + 'at the same time as' + 'pull' + 'vehicle.' Notice that 'pull' here (S/v'/) is realizationally the same as 'pull' (S/v/) which is to be realized as the lexeme pull, but that the range of tactically allowable 'goals' is limited to 'vehicle' in the former, while the latter can take any concrete object as goal. It must be noted that the tactics of S/X/ as to 'goal' is entirely determined by that of S/v'/ (because the other component 'go^{1x}', defines its tactical range as to agent only). On the other hand, the tactical range of S/X/ as to agent is defined by the component 'go^{1x}', and the tactics of S/v'/ as to agent is entirely dependent on it. Thus,

(1) in case that S/v'/ is a sememe of a sort that does not take a goal, we can specify its tactical range for agent (or ergatum) as identical with that of 'go^{1x}.' This tactical range for agent may (a) or may not (b) be identical with that of S/v/. Cf.:

(a)

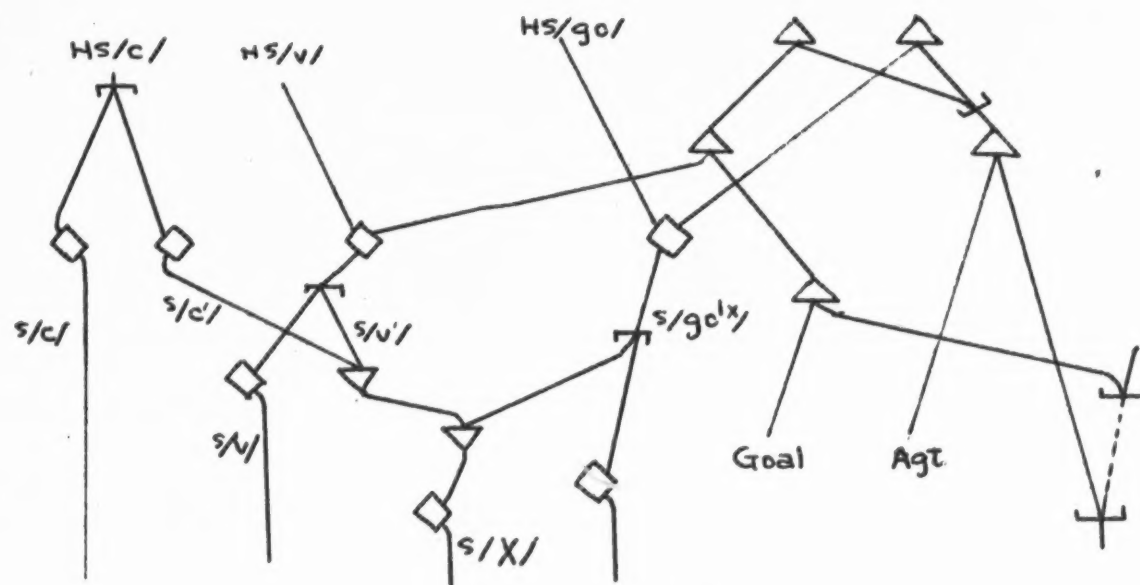


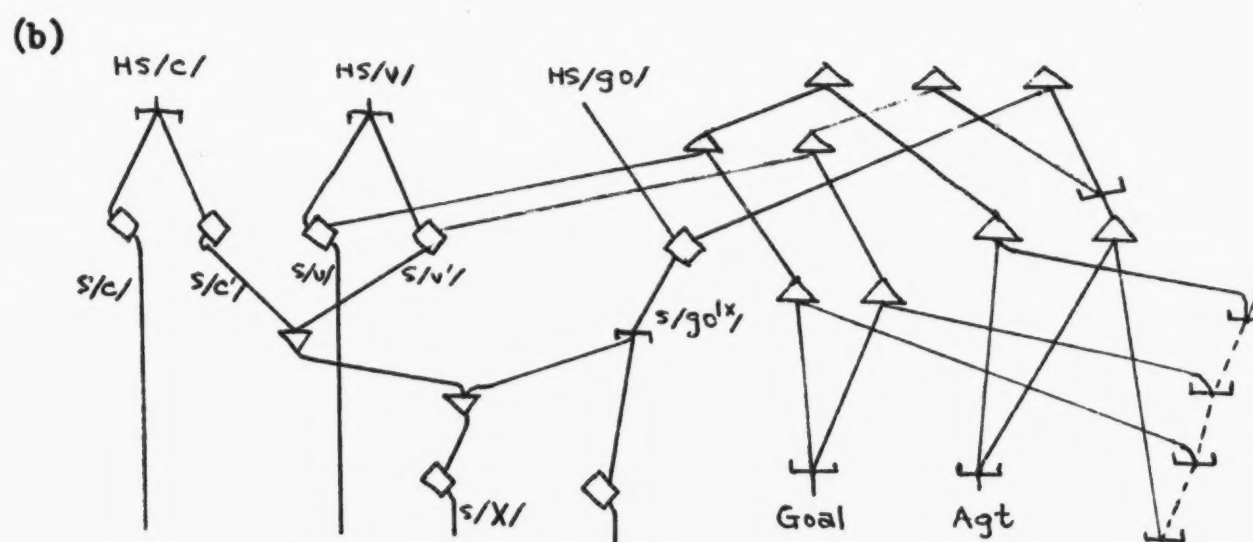
(b)



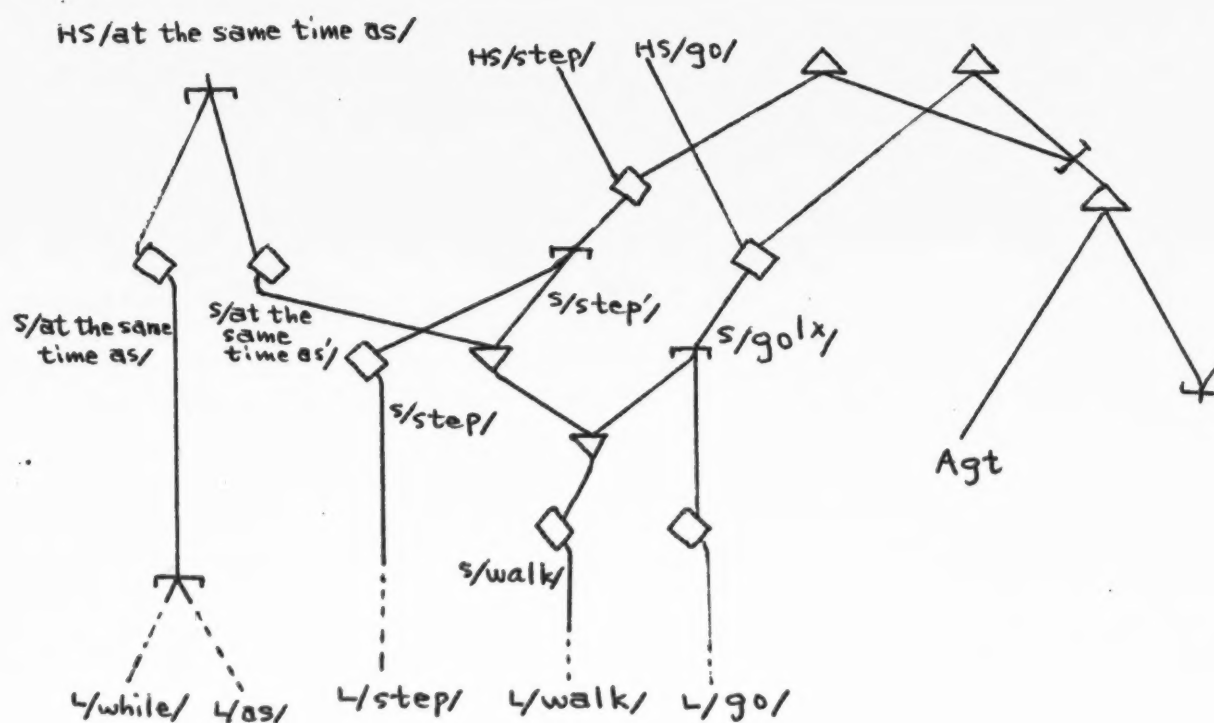
(2) in case $S/v'/$ is a sememe of the sort that requires a goal as well as agent or ergatum, its tactical range as to goal is also the tactical range of $S/X/$ as to goal, while its tactical range as to agent or ergatum is identical with that of $S/go^{lx}/$. These tactical ranges (i.e. as to goal and agent) may (a) or may not (b) be the same as those of $S/v/$.

(a)





A diagram for 'walk' is given below as an illustration:



19.5 In the preceding few sections, we have seen how the three fundamental types of semological structure of English verbs of motion can be described. It remains to see how more complex patterns will be described. A problem here arises as to the priority in combination in case we have more than one element of the same type or elements of more than one type mixed. We can probably think of two criteria here: (1) degree of relevance of the element to the notion of movement, and (2) simplicity of description.

19.5.1 Among the various types of components set up in 2-17, we can readily see that some are more relevant to the notion of movement than others. Thus, if we compare a component of 'course' like 'straight' with a component of 'purpose' like 'in order to overtake', the former will be judged as more essential to the notion of movement than the latter. This judgement will be supported by the fact that while 'straight' is a physically definable notion as is the notion of movement, this is not the case with 'in order to'. What we need here, however, is linguistic criteria.

One such criterion will be provided by starting with an assumption that syntagmatic structure presupposes paradigmatic structure and that the former reflects the latter in the sense that more closely related sememes will in general be arranged closer in a linear sequence. On this assumption, the component of direction is more relevant to the notion of movement than the component of impetus, for example, because we say go down violently and not *go violently down. The criterion, however, is unfortunately not perfect, because word-order is much influenced by other factors than meaning. Cf. go violently down the hill as well as go down the hill violently, etc.

We can, however, probably make a broad distinction in the following way: Cf.

He went down. ---(1)

He went by car. ---(2)

He went to see his girl friend. ---(3)

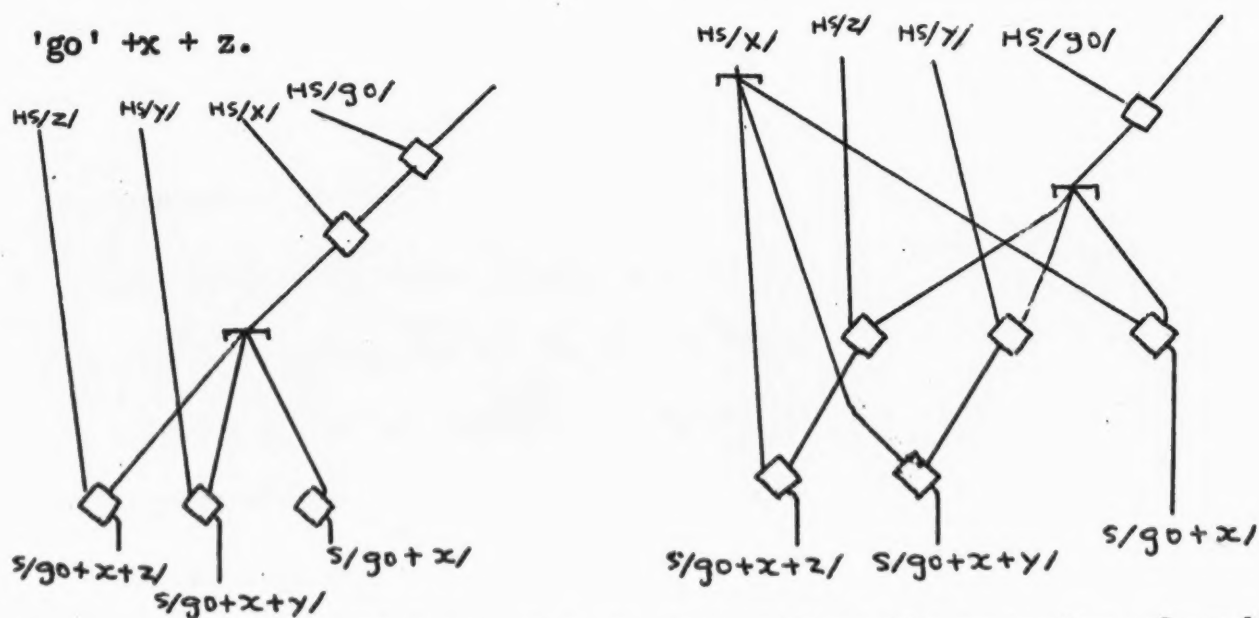
We can see that down in (1) is a member that forms an immediate constituent with went, while in (2), by car, which forms an immediate constituent

with went, is itself a constituent whose members are by and car. The term car is thus one rank shifted from went. The same may be said with regard to (3), where the position occupied by an infinitive is again one rank shifted from went and, moreover, this infinitive itself may be a constituent which contains further hierarchical structure. We thus see that as we go from (1) to (3) the sentence contains elements which are less closely related to the verb went. The implication of this is that the three structural patterns which we discussed in 18.0 represent different degrees of relevancy of the component in question to the component of movement and that in case components of all these three types cooccur, the component of movement first forms an immediate constituent with the component of the first type, then the second, and lastly, the third type.

Another criterion may be provided by noting the following: come descending, - *descend coming, come hurrying - *hurry coming, come driving - *drive coming, come walking - *walk coming, etc.²⁴ Notice that phrases like come rising, come hurrying, etc. are semantically nearly equivalent to come upward, come in a hurry, etc. In other words, verbs like rise and hurry, in the present participial forms in which they are used here, have almost lost their component of movement and what remain are the adverbial elements that originally served to specify the type of movement. The fact that it is impossible to put the other verb in the participial form and reverse the order seems to indicate that the verbs that can stand in the first position are 'purer' verbs of motion than those that stand in the second position only. Notice that there is further a certain ordering even among verbs of the second

*type. Cf. descend by walking - *walk by descending, hurry by driving - *drive by hurrying, climb by walking - *walk by climbing, travel by flying - *fly by traveling, etc. It will be seen that verbs with such components as direction, course, manner, and distance, at any rate, take the first position as against those with such components as mode, means and space.

19.5.2 According to the criterion of simplicity, we will get a simpler description if we follow a rule that a recurrent component should be placed higher in the hierarchy than a less recurrent component. Compare the following two diagrams, which equally aim to represent three sememes with the internal structure of 'go' + x, 'go' + x + y, and 'go' + x + z.

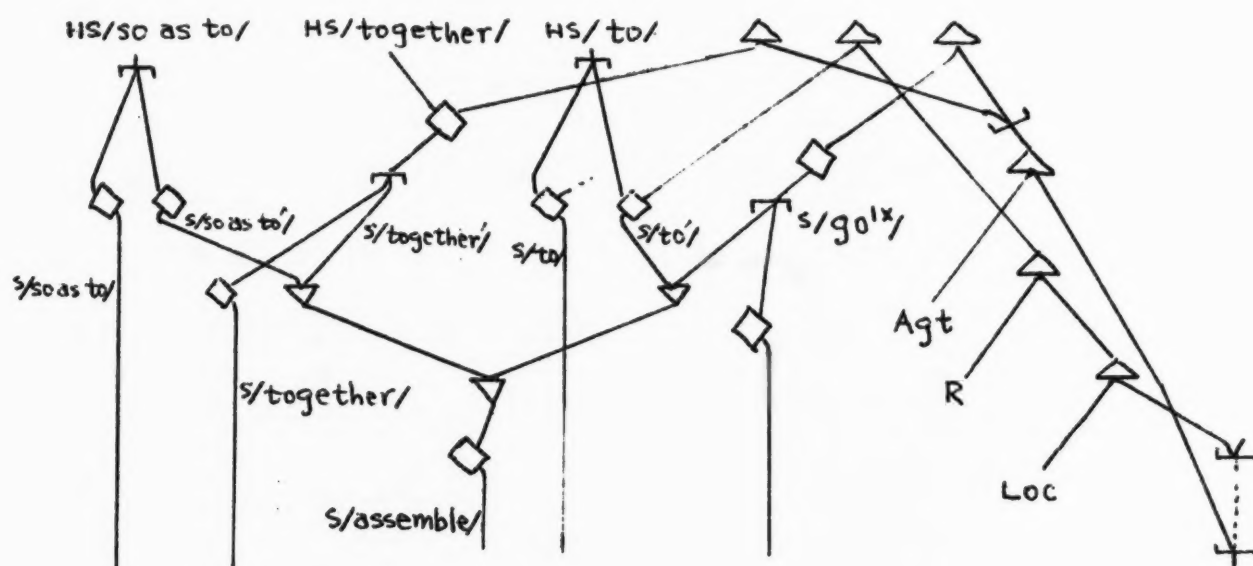


This criterion will be useful in determining the priority of combination among components of the same type.

An interesting point to be observed is that the result obtained by applying the criterion of simplicity will often come very near to what we intuitively feel. This is not due to mere chance. It is because components that are closely related to the notion of movement (e.g. 'down', 'to') tend to recur in a number of sememes, while the

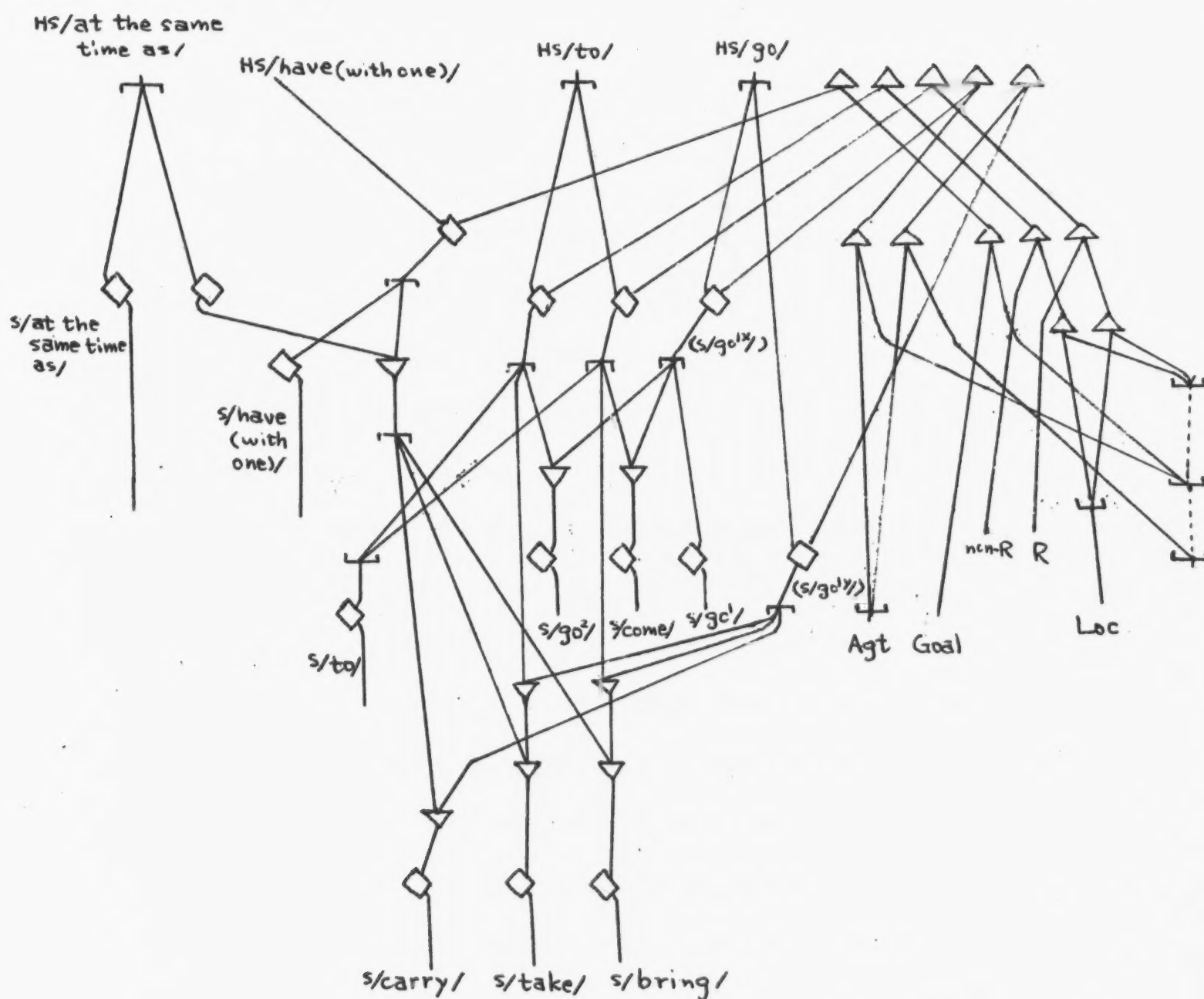
occurrence of less relevant components is usually restricted to a few sememes.

As an illustration of the complex type, the diagram for 'assemble' is given below:



Notice that the tactical range of S/assemble/ as to location is determined by that of the component S/to'/. When this S/to'/' takes an indication of location, it must necessarily take 'R' (which is not independently realized as a lexeme). The tactical range of S/assemble/ as to agent is defined by that of S/go¹y/ to which the tactical range of the component 'together' (cf. we are together, etc.) must conform. The component of result is represented lower than that of direction.

Finally, we will represent the relations among S/go¹/, S/go²/, S/come/, S/carry/, S/take/, and S/bring/.

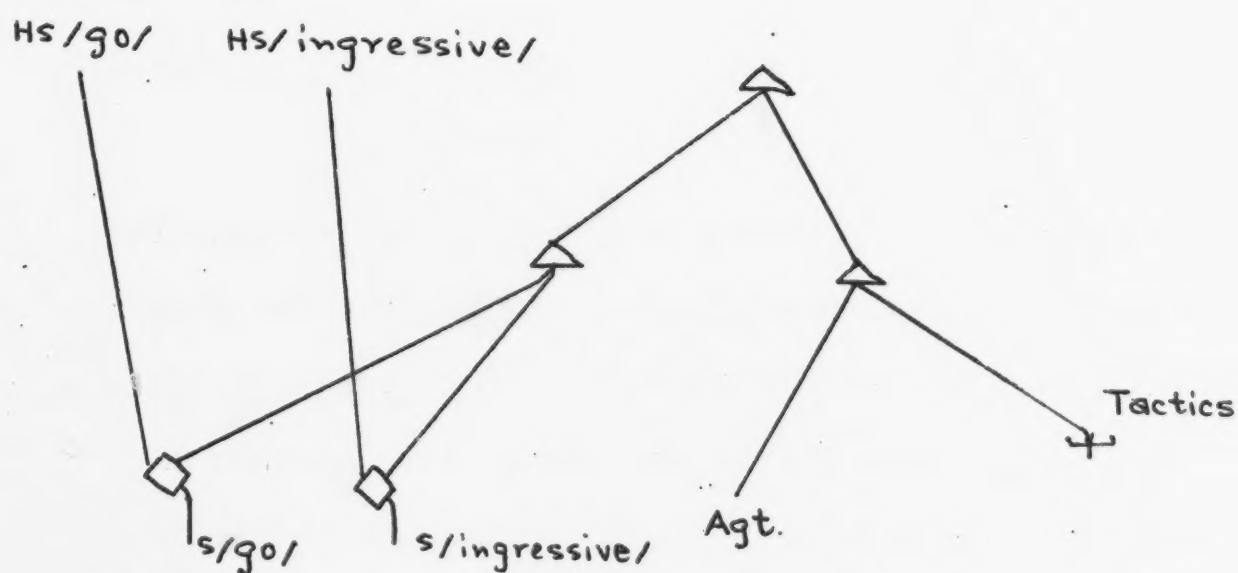
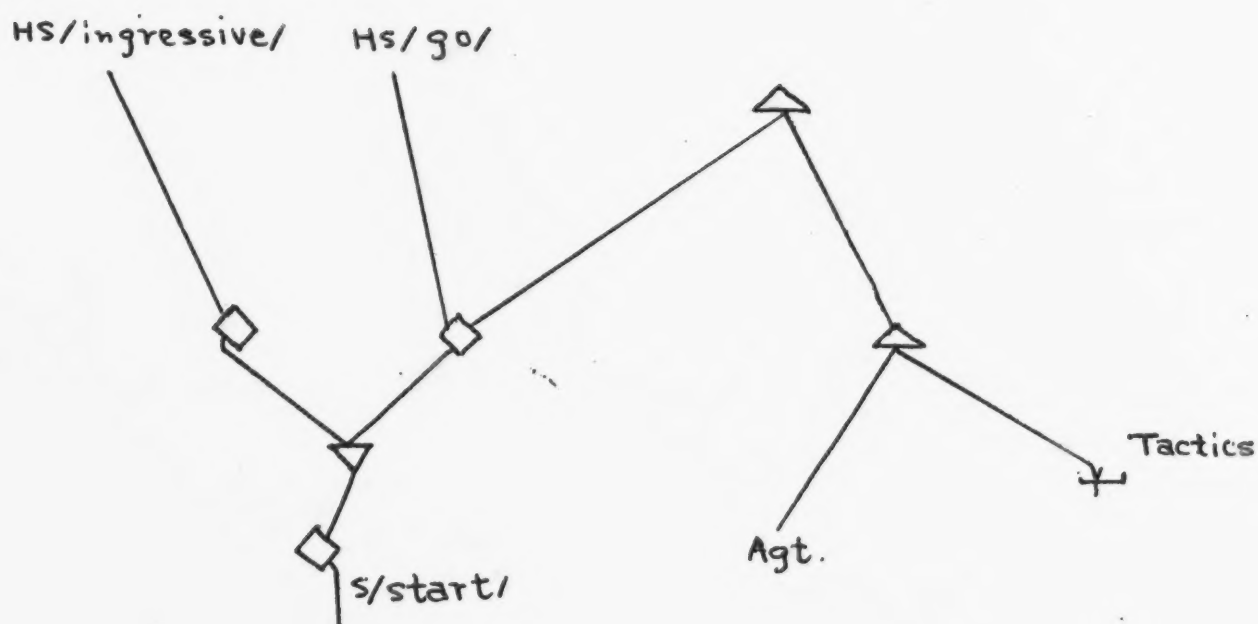


Notice that a first distinction is made between the two realizations ('go^{1x}' and 'go^{1y}') of the hypersememe 'go' on the basis of the difference in tactical range. A second distinction is made according to whether either of the components, 'to R' or 'to non-R', is added or the component remains unmarked. This produces S/go²/, S/come/ and S/go¹/ on the branch beginning with the sememe S/go^{1x}/, whose tactical range is 'concrete'. The combination of 'to R' 'to non-R' or null with 'go^{1y}' simply represents a gap in the semological network, but by having

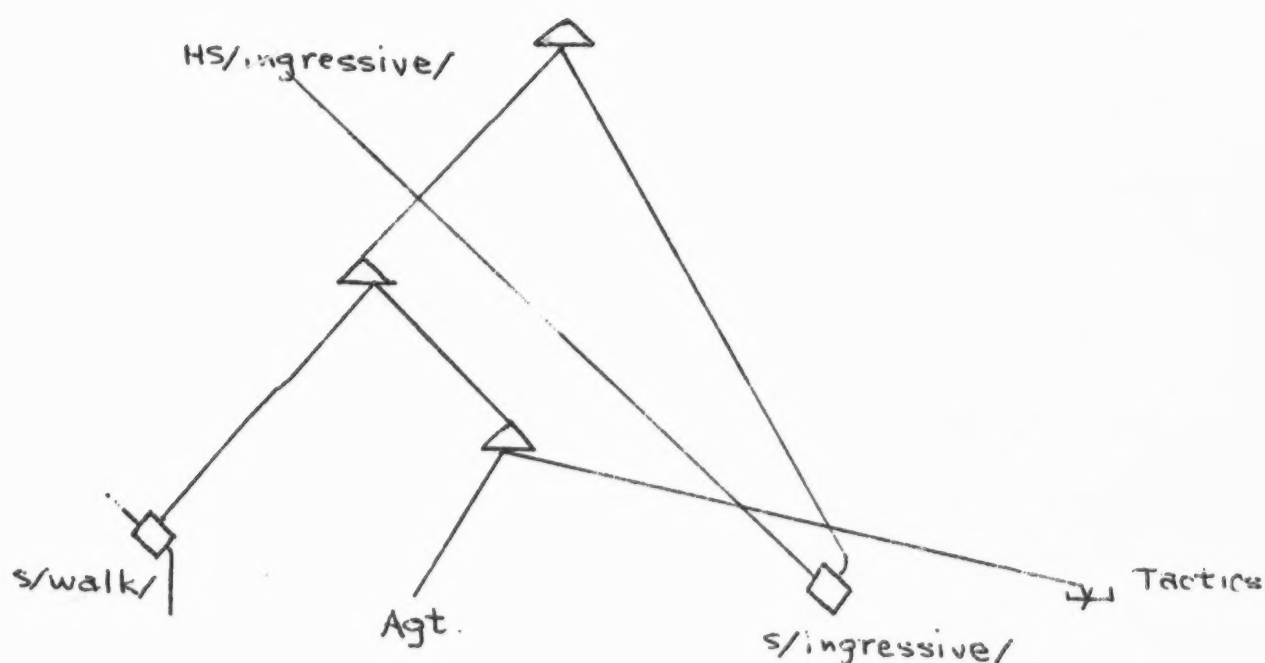
the component 'have (with one)' further added to it, we will get S/take/, S/bring/, and S/carry/. Notice that the tactical ranges of these sememes as to goal are identical with those of S/go¹/, S/come/ and S/go²/ as to agent.

19.6 We have discussed the representation of the three main semological patterns of the verbs of motion. Special considerations are necessary, however, for the features of aspect and cause.

19.6.1 From the viewpoint of structural patterning, the components of aspect may appear to belong to the first type discussed above, but while the other components of the first type are usually realized as 'adverbs', those of aspect are probably fundamentally of verbal nature. Thus, the rough renderings of such verbs as start and stop are 'begin to move' and 'finish moving', respectively. Notice that syntagmatically, notions of beginning and ending are related to the whole of the verbal notions that follow them. Thus in begin to go across the stream, finish going across the stream, begin to go to school, finish going to school, etc., what is begun or finished is something that is referred to by the following infinitive or gerund with all its modifying elements. This leads us to a conclusion that components like 'ingressive' and 'egressive' belong to a higher dimension than the one to which the other components belong. The former, as it were, encompasses the whole pattern constituted by the component of movement plus any of the latter. The structure of the sememe S/start/ is given below in comparison with that of the phrase begin to go.



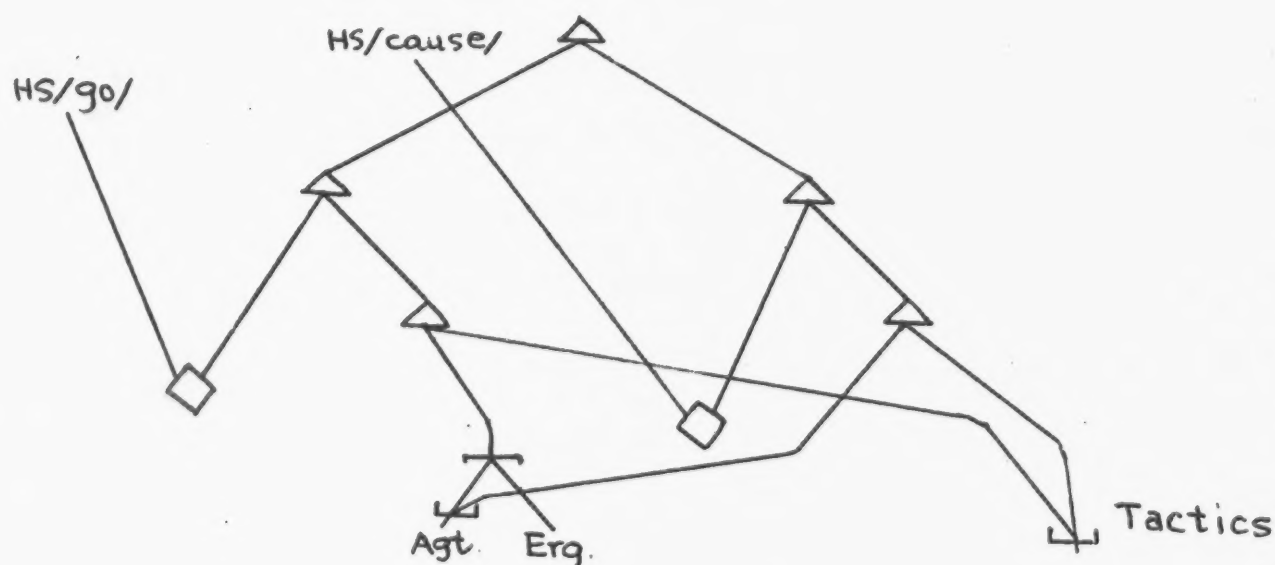
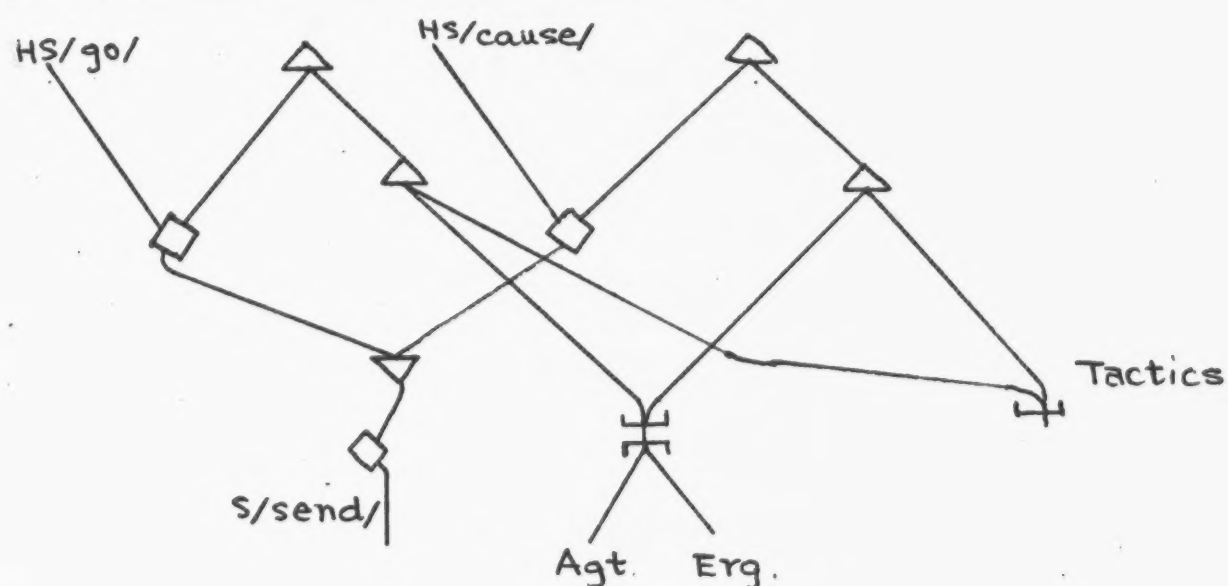
In the formulation shown above, the first immediate constituent is formed by 'go' and 'ingressive' and 'agent' is then attached to this whole combination. The component 'ingressive' can also combine with the constituent formed by 'agent' and 'go'. The difference between the two cases is seen in she began to walk and her walking began. The representation of the second type is as follows:



19.6.2 The components of cause also have a special status. They are very similar to the components of aspect in that they are fundamentally of verbal rather than adverbial nature: cf. cause him to go, make him go, let him go, etc. On the other hand, the components of cause contrast with those of aspect in that they connect to a whole combination constituted by the moving body and its motion rather than directly to the motion, since in the sense in which we are now interested, what is caused is always a movement of something. In this respect, the components of cause contrast with those of aspect; the latter are sometimes applied to the motion alone (i.e. the movement of something started). The arrangement of lexemes in sequences like cause him to go across the stream and cause him to begin to go across the stream incidentally reflects the underlying semological structure, since cause takes as its grammatical object a construction 'accusative

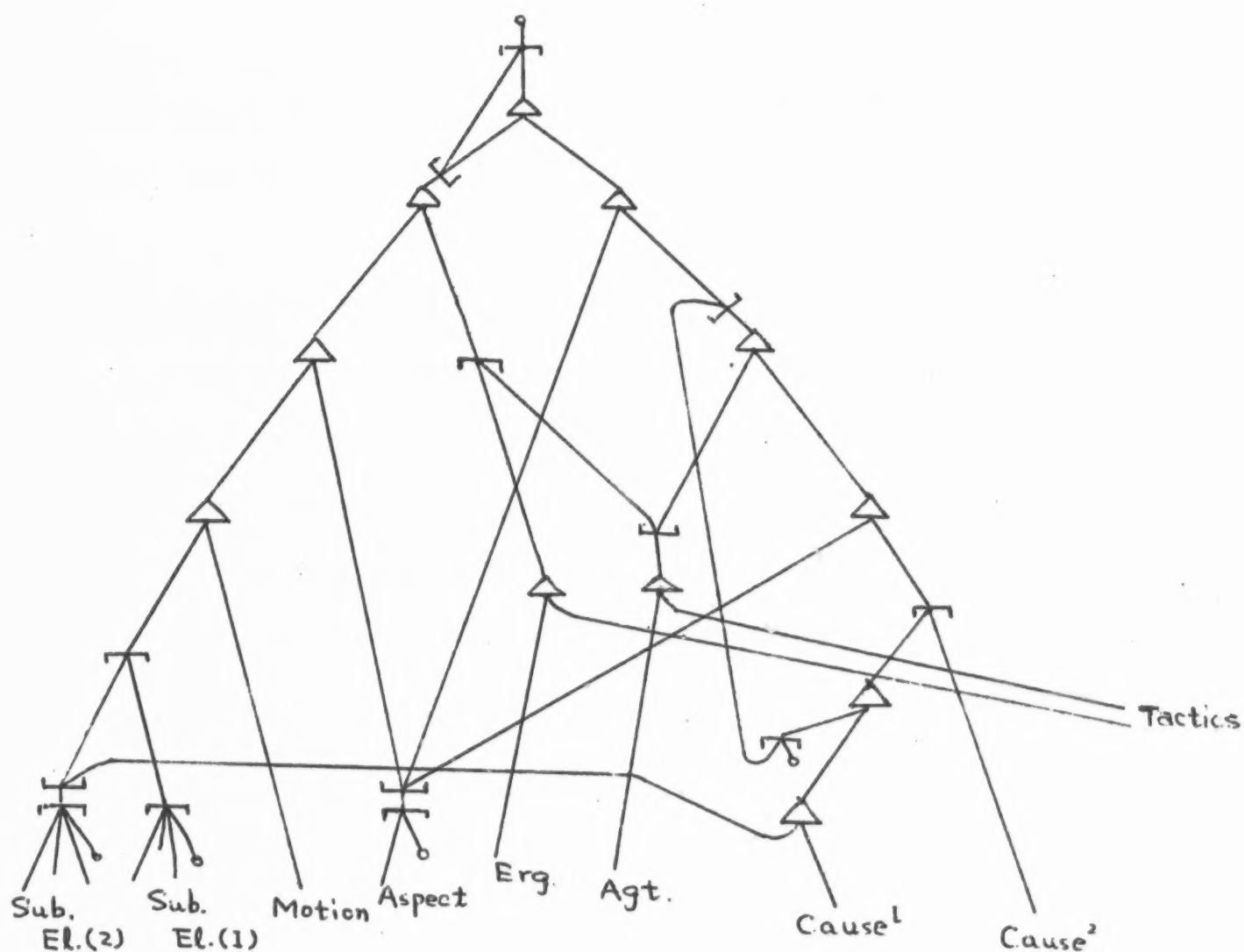
with infinitive' specifying the moving object and its motion. The semological structures of the two strings above will be represented schematically as 'cause + [he + [go + across-the-stream]]' and 'cause + [he + [begin + [go + across-the-stream]]], respectively.

In the below, two diagrams are given contrasting the semological structures of 'send' and 'cause to go'. The main difference, as will readily be apparent, lies in the fact that in 'send', 'go' (together with its agent) is incorporated into 'cause', while both are merely syntagmatically combined in 'cause to go.'



19.7 The discussion in 18.5 has revealed that there are hierarchical relations among sememes. The lowest layer is constituted by the component of movement 'go' and the various types of subordinate elements. This whole structure is dominated by a node that connects to the components of aspects. This node is then dominated by another node that specifies the types of agency. Then the whole structure is further dominated by a node that connects to the components of cause with the agents duly specified.

It must be noted that among all these elements only 'go' and its accompanying element of agency are obligatory, others being optional ones. Notice also that a component of cause presupposes a component of agent and that a pair constituted by 'cause¹' and 'agent', but not a pair constituted by 'cause²' and 'agent', can be selected recursively: i.e. an agent causes an agent to cause an agent to cause..an agent to go (cf. 1.6). It must further be noted that the components of aspect may come into the hierarchy at several other points than the one mentioned above. Thus they may come in at a point just above the agent that is related to the component of movement; this is illustrated by the man's walking began as contrasted with the man began to walk. Or they may come in at a point just above the component of cause: cf. he began to cause the man to walk; and also above the agent that is related to the component of cause: cf. a rather improbably sentence like his causing the man to walk began and a more natural one like the withdrawal of the army now began. We thus have the following diagram:



Notice that we have here only hierarchical relation where no linear ordering is involved. The arrangement of items in linear sequence is defined at the lexemic stratum by lexotactics. Semotactics defines only the combinability and the priority of combination among the items.

NOTES

1. We are here thinking of such a use as the runner stopped to breathe. Stop in a sentence like I am stopping with my uncle belongs to a different use.
2. The loss of the notion of movement is in part reflected by the inability of these verbs to take adverbial modifiers indicating specific distance. Cf. *elope ten miles. The usefulness of the criterion, however, is lessened by the fact that there are many verbs of motion which, for one reason or other, cannot take similar modifiers.
3. Navigate can also be employed as a verb of motion. Cf. 13.
4. Cf. Hockett (1954): 'In English, and probably in Western languages, verbs of motion from one place to another are also freely used to express constant spatial locus of an object, or change of spatial relationship of parts of an object as in growth... In Chinese, verbs which carry the central meaning of motion are not used in such extended use. The few exceptions must be suspected of having developed under Western influence.' Hockett's remark is probably correct. The first three sentences cited in this section cannot be literally translated into Japanese without sounding highly rhetorical.
5. In the following discussion, I am indebted to Halliday (1967-8 ; Pt.I) and Lyons (1968:sec.8.2). My analysis, however, goes considerably farther than theirs.
6. I propose to use this hybrid form because of the convenience of having an adjectival form ('ergatic') as well as the nominal form.

7. The labeling given in the parentheses here is merely for the sake of convenience.

8. 'Ingressive' and 'egressive' are in fact categories that belong to verbs of change in general. Compare also such pairs as become - cease, appear - vanish/disappear, etc.

9. In general, the imperative has a function of assigning 'ingressive' aspect to the verb. To imply the continuity of the act, we have to say: keep running! and so on.

10. Another component 'continuous' is probably necessary for an account of the semological structure of English verbs in general (e.g. for such verbs as stay, keep). There is, however, no verb of motion with this particular component.

11. From a wider point of view, however, (3) is distinguished from the other two, because only it is realized as edgeways.

12. For the component 'R,' see 3.6.

13. For the component 'R,' see 3.6.

14. For 'R,' see 3.6.

15. For some people, especially the speakers of American English, go seems to alternate with come with regard to the second person, too. In certain contexts, go is in fact preferred to come. Thus, I went to you for advice, but you disappointed me. You, in this and other analogous contexts, however, is conceived of as non-reference point. See the discussion in the ensuing sections. We have also to consider as a special a case in which the speaker is referring to himself in a picture. 'Me,' in such a case, is not functioning as reference point. We start our

discussion from the most usual uses of come and go with the personal pronouns and then proceed to extended uses.

16. As a further step away from the verbs of motion, compare such verbs as deflect and deviate.

17. Tardy refers more to the speed of an 'action' rather than of a 'movement.'

18. The definition of 'hurried' would probably involve some component of purpose like 'in order to be in time.' On the other hand, 'speedy' refers more strictly to high speed.

19. In a sentence like his mind wandered for a moment, wander is not a verb of motion. It represents a different sense of wander.

20. Notice that in a transferred or metaphorical use the originally non-distinctive component of speed may become distinctive.

21. Cf., for example, 'all four feet in the air at one stage of each stride' for gallop and 'the fore and hind legs on the same side moving forward together' for trot.

22. Linguistically, this moving body may be referred to either as goal or as locative. Cf. 13.3.7.

23. This is essentially one special case of the general pattern discussed in 13.3.4 of Pt.I.

24. It must be noted that a pair like: escape by running - *run by escaping does not imply that the component of purpose of the verb escape is more intimately connected to the notion of movement than the component of mode of the verb run but that only the component of direction ('away') of escape is here in question and the component of purpose ('in order to be free') is to be related to the whole of the combination (i.e. 'go away by running in order that one may be free').

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